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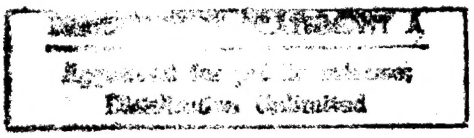
8 November 1982



USSR Report

MILITARY AFFAIRS

No. 1718

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CONTENTS

ARMED FORCES

SUPERVISION OF MILITARY TRIBUNALS' COURT ACTIVITIES

Moscow SOTSIALISTICHESKAYA ZAKONNOST' in Russian No 6, Jun 82 (signed to press 24 May 82) pp 24-26

[Article by G. Bushuyev, Chairman of the Military Board of the USSR Supreme Court]

[Text] In conformity with Article 151 of the USSR Constitution, military tribunals are courses that administer justice in the Armed Forces. They are part of the single court system of the Soviet state, and their activities are organized on the same democratic principles of socialist justice that are inherent in the general courts.

Supervision of the court activities of the military tribunals, in conformity with the Law "The USSR Supreme Court" and the "Statute Governing Military Tribunals" (in the 25 June 1980 edition) is carried out by the USSR Supreme Court, as well as the military tribunals of the branches of the USSR Armed Forces, the military districts, groups of forces, and fleets within the confines of their competency.

In order to assure the correct and uniform application of the law in the court activities, and the increase in their quality and effectiveness, the legislation established a definite procedure for monitoring and checking execution.

A special role in supervision of the court activities belongs to the Plenum of the USSR Supreme Court, which, on the basis of a study and generalization of the court practice, as well as an analysis of court statistics, provides directive explanations concerning questions of the application of the legislation which arise during the consideration of court cases. They are mandatory not only for all courts, including military tribunals, but also other agencies and officials that apply the law for which the explanations are provided.

The Plenum of the USSR Supreme Soviet, when carrying out supervision of the court activities of the military tribunals, considers -- for the protests of the Chairman of the USSR Supreme Court and the USSR General Procurator by way of supervision, and also for the findings of the USSR General Procurator for newly discovered circumstances -- the cases that have been resolved by the military tribunals for which determinations were made by the Military Board of the USSR Supreme Court; listens to reports by chairmen of the military tribunals of the

branches of the USSR Armed Forces, military districts, groups of forces, and fleets concerning the practice of applying the legislation and concerning the execution of the directive explanations issued by the Plenum of the USSR Supreme Court; listens to reports by the chairman of the Military Board of the USSR Supreme Court concerning the work of the board, including the carrying out by the board of the supervision of the court activities of the military tribunals.

In the interests of guaranteeing the effective supervision over the court activities of the military tribunals, the Chairman of the USSR Supreme Court, his deputies, and the chairman of the Military Board of the USSR Supreme Court are granted the right to lodge a protest (by way of supervision) for any case that was resolved by a military tribunal, and to stop temporarily the execution of the decision, sentence, determination, or decree issued by the judge on that case. Protests against sentences, decisions, and determinations that have entered into legal force, after being issued by the military tribunals of armies, large units [*soyedineniye*], flotillas, or garrisons, as well as decrees issued by judges in those courts, are submitted to superior military tribunals -- those of the branches of the USSR Armed Forces, military districts, groups of forces, fleets, and, in individual instances, to the Military Board of the USSR Supreme Court.

In the USSR Supreme Court, supervision of the court activities of the military tribunals is made the responsibility of the Military Board. The basic trends in the supervision are formulated in the Decree Governing Military Tribunals (Chapter III). First of all, they are the checking of the legality and substantiation of the court decisions on the cases resolved by the military tribunals. When carrying out the inspection, the Military Board considers: the appeal, partial complaints and protests against the decisions, sentences, and determinations issued by the military tribunals of the branches of the USSR Armed Forces, military districts, groups of forces, and fleets, against decrees issued by the judges on those tribunals; protests (by way of inspection) of the Chairman of the USSR Supreme Court, the USSR General Procurator, their deputies, the chairman of the Military Board of the USSR Supreme Court, and the Chief Military Procurator against the decisions, sentences, and determines of the mentioned military tribunals, and the decrees issued by the judges of those tribunals; and, on the findings of the USSR General Procurator or the Chief Military Procurator concerning newly discovered circumstances, the cases for which decisions, sentences, or determinations have been made by the mentioned military tribunals.

In accepting the decisions with regard to specific cases, the Military Board first of all strives for a situation in which the cause is resolved in strict conformity with the law. This activity by the board contributes also to the correct and uniform application of the laws by the military tribunals. By studying and disseminating the positive experience, by locating errors and correcting or eliminating them, the board exerts an active effect upon the practice of the military tribunals, and helps to prevent errors and eliminate shortcomings in court activities.

One should not fail to consider also the fact that the Military Board, when checking the case, simultaneously checks the judges in the chief sector of their activities: checks how they actually apply and execute the laws; what are the real results of their labor; and what is the actual level of their professional

being issued by the military tribunals of the armies, flotillas, large units, and garrisons, and against the decrees issued by judges at those tribunals; to stop temporarily, in the legally stipulated procedure, the execution of decisions, sentences, determinations, and decrees issued by military tribunals against which he can lodge a protest. In the process of the checking of cases, an ascertainment is made of the positive experience in their resolution, and the mistakes and shortcomings in the court activities.

The justifications for the abrogation or change of court decisions have been indicated in Articles 342-347 of UPK RSFSR [RSFSR Code of Criminal Procedure] and Articles 306-309 of GPK RSFSR [RSFSR Code of Civil Procedure] and the corresponding articles of the codes in the other union republics. If there are justifications, a protest is made to the appropriate supervisory instance, which make a decision of substance. However, during the checks, one also reveals those violations of legal standards which do not result in the abrogation or change of the court dececisions. Practical life shows us that the number of such mistakes is greater, and the fight against them is of vital importance. Therefore the checking of the specific cases should not be limited only to their study and the lodging of protests. It is important to make the maximum use of the obtained information in order to improve the quality and effectiveness of the justice being dispensed by the military tribunals.

The military tribunals at the district level organize the work of checking the cases in the same way that the Military Board does. The difference lies in that they carry out the supervision only with respect to the lower-level military tribunals, and the chairmen of the military tribunals are not given the right to stay the execution of the court decisions.

An important area in the supervision over court activities is the study and generalization of the court practice, the analysis of the data provided by statistical accounting. The Military Board, twice a year, compiles surveys of appeal-supervision practice; periodically it sums up the results of considering cases according to types of crimes; analyzes the miscalculations that were revealed during the ehcking of cases by way of supervision; etc. The generalized documents, as well as letters dealing with the specific cases, are sent to the military tribunals. In order to study and generalize the court practice of the military tribunals, the Military Board demands the receipt of the cases; the employees on the board make trips to the outlying areas; they study the survey documents of the military tribunals, their court and supervisory practice, etc.

The judges at the military tribunals at the district level operate in the same manner, rendering practical assistance to the lower-level military tribunals.

One of the forms of supervision over the court activities of the military tribunals is monitoring of their execution of the directive explanations issued by the Plenum of the USSR Supreme Court. By considering, at a court session, of a case that has been resolved by a military tribunal, and by checking the case by way of supervision, the Military Board monitors the actual execution of the directive explanations that pertain to the resolution of that case. One also checks the fulfillment by the courts of the individual decrees of the Plenum of the USSR Supreme Court, or the specific directive explanations. This kind of monitoring

training. This checking is carried out in a joint manner, on the basis of the results of the judges' labor, as reflected in the case materials, and in strict conformity with the law.

The military tribunals of the branches of the USSR Armed Forces, military districts, groups of forces, and fleets, when carrying out the supervision, consider: the appeal, partial complaints and protests -- against decisions, sentences, and determinations of the military tribunals of armies, flotillas, large units, and garrisons, and against the decrees of the judges on those tribunals; protests (by way of supervision) of the Chairman of the USSR Supreme Court, the USSR General Procurator, his deputies, the chairman of the Military Board of the USSR Supreme Court, tne Chief Military Procurator, his deputies, and chairmen of the military tribunals and military procurators in the branches of the USSR Armed Forces, the military districts, groups of forces, and fleets, against decisions, sentences, determinations that have entered into legal force after being issued by the military tribunals of armies, flotillas, large units, and garrisons, and against the decrees issued by the judges on those tribunals; in accordance with the findings of the USSR General Procurator, the Chief Military Procurator, their deputies, and the military procurators of the branches of the USSR Armed Forces, the military districts, groups of forces, and fleets, concerning newly discovered circumstances -- criminal cases for which sentences or determinations have been made by the previously mentioned military tribunals; on the basis of statements by persons participating in the case or by the procurator concerning newly discovered circumstances -- civil cases for which decisions or determinations have been made by the same military tribunals.

This court activity of the military tribunals at the district level guarantees the resolution of those questions that were discussed, as applicable to the Military Board, but with the difference that they carry out the supervision only over the military tribunals that consider cases only at the first instance and that are in operation in armies, flotillas, large units, and garrisons.

One of the areas in the supervision of the court activities is the checking of specific cases for which decisions, sentences, determinations, or decrees have gone into legal effect. This checking can be carried out either in connection with requests that have come in with regard to it from various individuals, institutions, or organizations, or with presentations or special opinions of judges; or on the initiative of the Military Board if, during the study of the court practice, when becoming acquainted with copies of the court decisions, review documents of the military tribunals, etc., there arise doubts about the correctness of the resolution of the case. The board is empowered to check any case that has been resolved by any military tribunal. For purposes of guaranteeing this kind of supervision, the chairman of the Military Board has been given the right: to demand the receipt of the cases for verification; to submit to the Military Board of the USSR Supreme Soviet protests against decisions, sentences, and determinations that have gone into legal effect after being issued by the military tribunals in the branches of the USSR Armed Forces, military districts, groups of forces, fleets, and against decisions issued by judges at those tribunals; to submit to the military tribunals of the branches of the USSR Armed Forces, the military districts, groups of forces, and fleets, protests against decisions, sentences, and determinations that have gone into legal force after

is also carried out in connection with the preparation by the Military Board of materials for discussion at the Plenum, and in connection with the forthcoming presentation of oral reports at the Plenum by the chairmen of the military tribunals.

Within the confines of their competency, similar monitoring is carried out by the military tribunals at the district level.

While carrying out the supervision of the court activities of the military tribunals of the branches of the USSR Armed Forces, military districts, groups of forces, and fleets, the Military Board also reveals shortcomings in their work in the supervision over the lower-level tribunals. By taking steps to eliminate the errors and miscalculations, the Military Board contributes to improving the quality and reinforcing the supervisory work of the mentioned military tribunals, and to the improvement of its organization.

The statute governing military tribunals requires the higher-level courts to use the results of the supervisory activity in order to assure the correct and uniform application of the laws when military tribunals are dispensing justice. In this regard great practical importance, in particular, is attached to the ascertaining, correction, elimination, and prevention of errors and shortcomings in their court activities.

The dispensing of justice only by the court, the guaranteeing of the independence of the judges, and the subordination of them only to the law influence the peculiarity of the procedure of correcting and eliminating court errors. It is only the appropriate higher-level court, only in a court session, in a joint manner, that can change or abolish a court decision that was previously made. The ascertaining and prevention of court errors is achieved not only by means of the checking of cases by higher-level courts in court sessions. Thus, the acquaintance with the determinations made by the Military Board and the military tribunals at the district level helps the judges to make a more careful analysis of the vital questions that arise during the resolution of the cases, to prepare better for the examination of the cases, to study the evidence and to compile the documents, and to avoid mistakes.

When informing the military tribunals about the results of its supervisory activity, the Military Board strives to disseminate the positive experience, to reveal the reasons for the court errors, and the ways and methods to prevent them, and to give answers to the vitally important questions that arise during the court practice of the military tribunals. In this regard, in the survey materials, in addition to an analysis of the specific cases, one gives recommendations about the manner in which to organize the work of the person presiding in the case in the process of preparing, considering, and resolving the case; one proposes programs for the consistent discussion of questions in the consultative room and the monitoring of the decision that has been made; one analyzes the most typical situations to be resolved in court sessions, etc. As has been demonstrated by experience, the judges perceive in a positive manner this kind of approach to the preparation of the survey documents.

In addition to the surveys, the Military Board makes active use of direct communication with the workers in the military tribunals; trips to the outlying areas for

the purpose of studying the court practice and the rendering of assistance; participation in conferences, training assemblies, and seminars for judges, discussions with them, the presentation of individual and joint reports, etc.

Supervision over the court activities of the military tribunals is a complicated, multifaceted kind of work. It can guarantee the real monitoring and checking of execution if it is purposefully, effectively, efficiently organized.

The organizing of supervision is legally imposed on the chairman of the Military Board of the USSR Supreme Court and the chairmen of the military tribunals of the branches of the USSR Armed Forces, military districts, groups of forces, and fleets. Inasmuch as this supervision is closely linked with the organizational guidance of the military tribunals, the Military Board acts in contact with the Administration of Military Tribunals, USSR Ministry of Justice: on the basis of coordinated plans, joint trips are conducted to the military tribunals, and, in a number of instances, court practice is jointly generalized and survey documents are jointly compiled, and conferences of judges are held; the officers in the Military Board take part in training, methodology, and other training assemblies for judges.

All this has a positive effect upon improving the work of the military tribunals and upon raising the level of proficiency of the judges.

5075
CSO: 1801/031

ARMED FORCES

'KRASNAYA ZVEZDA' VIEWS USSR ARMED FORCES NATIONAL MAKEUP

Moscow KRASNAYA ZVEZDA in Russian 12 Aug 82 p 2

[Article by Anatoliy Polyanskiy: "A Writer's Notes: No Alloy is More Reliable"]

[Text] Not so long ago in Hungary I met some West German tourists who were staying, like my wife and me, at the Neptune Hotel on the picturesque shores of Lake Balaton. We were on the same floor, and we all ate in the only restaurant there. My most active opponent in the disputes which arose on all possible variations on the theme of "In your country and in our country" was a stout German from the FRG, no longer young with severe moustaches. He was interested in the nationalities question which, he believed, had in no way been resolved in the USSR.

"Tell me," the man with the moustaches inquired venomously, "what in your opinion has socialism changed on this question? And what is Russia, if not a conglomeration of disparate nations? Your Soviet Union is only held together by the assimilation and Russification of national minorities!"

His ideas were rather threadbare. They were actively used in the days of Goebbel's propaganda, which asserted that the USSR was only a house of cards, ready to collapse at the first blow from the Wehrmacht, since fighting would immediately break out among our country's peoples.

History has long since refuted these assertions. The friendship of the Soviet state's peoples has withstood the most serious test--the test of war. Nonetheless false conceptions have proved tenacious. They are once again being emphasized by our ideological opponents behind a somewhat glossy facade of concern for the peoples' "freedom."

It was not particularly difficult to demolish the FRG tourist's argument. It was only necessary to recall that in Tajikistan alone, for instance, in June 1941 volunteers submitted 10,000 applications requesting that they be sent to the front, while in Uzbekistan there were 14,000 such requests. Yakuts, Buryats and Kazakhs fought thousands of kilometers from their homes. The glorious family of heroes of the Soviet Union includes representatives of most of the Soviet nationalities.

"Well, ok," the West German tourist agreed reluctantly. "That was a long time ago. But what about now?"

Once again I was forced to give him example after example about the life of our republics, to explain the history of the emergence of a new, formerly unknown community of people--the Soviet people. My opponent finally laid down his "arms," stating that he probably had not "sufficiently studied this problem"!

Later, in the GDR among units of the Nationale Volksarmee, I recalled this argument and told Maj Kurt Willi about it.

"You should have invited me to join in the exchange of opinions," he said on hearing about my argument with the western tourist. "I have set myself the task of visiting each of the 15 Soviet republics. I use my leave for this purpose. I have visited five already! What local color, what vivid traditions! And the Army! Your Army is the real embodiment of the socialist society. We are on friendly terms with a Soviet unit not far from here. Its commander is a Ukrainian, the chief of staff is Belorussian, the political worker is an Udmurt!"

One of Kurt Willi's thoughts pleased me particularly. He said: The service of representatives of all the country's nationalities in the Soviet Army testifies to its international nature and is vivid evidence of the equality of the USSR's peoples.

I served in the Army for more than a quarter of a century and devoted my creative work to people in greatcoats. To this day I have occasion to visit garrisons a great deal. Everywhere I meet with former colleagues and become acquainted with privates, sargeants and officers. Among my friends are, for instance, Col Sharashenidze--a Georgian, Col Nazarenko--a Ukrainian, Col Pikauskas--a Lithuanian, Lt Col Sanchin--a Kamchadal, and the dashing paratrooper Sr Lt Sukholitko--a Moldavian. I have known Hero of the Soviet Union Col Gen Kreyzer--a Jew, and the famous military leader Twice Hero of the Soviet Union Col Gen Pliyev--an Ossetian.

The list is clear evidence that regardless of nationality, military men have absolutely identical rights to climb the service ladder, hold the highest command and political posts and be elected to any public, soviet or party entity.

Servicemen of different nationalities live in the Army as a united family in which the spirit of comradeship and high exactingness prevails. If a guy lacks volitional qualities, he is helped to acquire them. If you commit a misdemeanor, they keep you from further unseemly behavior. And if you stumble, they will not let you fall. They will help you in trouble or misfortune. In everyday Army activity examples of this kind can be met with at every step. But there are exceptional cases.

This happened in one of the military schools during the graduation of young officers. Lt Viktor Akynov hurried to the train station, planning to go on leave to his native Kazakh area. He jumped clumsily onto the step of a streetcar which had started off and slipped. He came to on a hospital bed. It was here he realized that he had been left a cripple. The decision came of itself: Life was over.

He didn't express his thoughts aloud but friends who had come to visit surmised everything themselves.

"What are you thinking of, devil take you?" Lt Taras Semiritko said to him threateningly. "Don't even think about it!"

"At home in Dagestan the worst person is one who keeps bad ideas in his head," said Lt Akhmed Khanayev, supporting Semiritko.

Could Viktor fail to understand them? His friends wanted to assume a portion of his sorrow.

His comrades visited him each day. Instructors, officers' wives and cadets of senior courses would come and each would bring the warmth of his heart.

The school commander also visited the hospital and promised to help with housing. Viktor decided to stay in the city where he studied.

The general kept his promise. On leaving the hospital Viktor received a one-room apartment furnished with furniture purchased by school officers together. His friends found him a job to his liking. Viktor became a technician in a generator shop at the telegraph office. Soon Nina Shepit'ko arrived from the Ukraine. Viktor had become acquainted with her during on-the-job training a year ago and now they were wed. A bit later Viktor entered the correspondence course department of an institute. That is how a person returned to life.

A developed sense of comradeship and friendship between servicemen of different nationalities is one of the Soviet Army's most important traditions. The inspiring military saying "Rescue your commander if you die in the attempt" has become an inviolable law for the Motherland's defenders. The best confirmation of this is provided by the exploit of Tatar Pvt Zamaleyev, who saved his commander and Russian friend Jr Sgt Kryzhanovskiy.

It was early spring, and the snow had not yet departed. The day before a hurricane had swept over the taiga and damaged the telephone line. Military signalmen were sent out to fix the trouble. Suddenly the unforeseen happened! The wind broke a high-voltage transmission line, which fell on a telephone wire, sending several thousand volts into it. The wire flared up like a torch in Kryzhanovskiy's hands. The junior sergeant fell and lost consciousness.

Zamaleyev, who was working nearby, reacted instantaneously: The commander was in danger! Without pausing to reflect, the soldier rushed to the pole. Of course he realized that he was taking a risk, but it was a question of saving a comrade.

The soldier climbed swiftly along the pole and cut the wire with pliers. The flow of current to Kryzhanovskiy ceased but Zamaleyev did not succeed in tearing the pliers from the wire. The current pierced the protective rubber glove and shorted through the soldier's body to the damp pole buried in the ground.

The Motherland valued highly this soldier's feat, which was accomplished in peacetime. For saving his commander's life, Pvt Amir Zamaleyev was awarded the Order of Red Star posthumously.

During a creative TDY among the troops I witnessed the reception of young recruits. Three-fourths of the soldiers drafted from Uzbekistan were singled out from among the recruits. It was necessary to choose 30 of them for a training subunit which trains sergeants.

"Anyone who has secondary or secondary technical education, step forward!" the major from the training subunit commanded.

The whole formation stepped forward as one.

Educated young people are joining the Army now. They are distinguished by a high level of competence and social maturity. It could not be otherwise. Modern troops are equipped with complex hardware. Anyone who has to master it needs profound knowledge, a broad outlook and high culture. That is what the draftees are like, whatever remote corner of our Motherland they come from, and this is the best evidence of the imcomparably improved standard of education in the union and autonomous republics which were once Russia's backward outposts. Now the lads drafted from there concede nothing to the new recruits from central oblasts of the country in terms of their competence and development.

At one garrison, together with Lt Col Valentin Alekseyevich Bogdanovich, commander of an outstanding unit, I carried out a kind of sociological analysis with the aim of tracing the level of combat training from the viewpoint of the subunit's national composition. The results were curious. In the company commanded by Capt Rodichev, two-thirds of the servicemen of non-Russian nationality were outstanding in combat and political training, one-half were rated specialists and one-fourth were in command positions.

"There is nothing surprising about that," the garrison commander said, learning of the results of the analysis. "There would be a similar picture in any other subunit."

The garrison commander is an old acquaintance of mine. He was the prototype for one of the heroes of my novel "The Right to Take Risks."

Great friendship and indissoluble ties of comradeship bind the servicemen of various nationalities who make up the close-knit Army milieu. It reflects the best features of the Soviet people: devotion to the ideals of communism, staunchness, courage, loyalty to the Motherland.

In service strong characters are forged and courage and collectivism are cultivated. The multinational nature of the Soviet Army does not weaken it, as is the case in the armies of capitalist states, which are built on racial oppression. On the contrary, it rallies the ranks of the homeland's armed defenders, because we are all sons of the united Soviet Motherland. And we have one aim: to ensure the country's security and defend peace on earth.

6904
CSO: 1801/336

LECTURE ON MILITARY REGULATIONS

Moscow AGITATOR ARMII I FLOTA in Russian No 18, Sep 82 (signed to press 10 Sep 82) pp 17-20

[Article by Lieutenant Colonel V. Snezhko under rubric "For Officer Students and Assistant Leaders of Political-Class Groups": "Code of Military Laws"]

> [Text] This article is recommended for use when preparing for political classes on the topic "Regulations of the USSR Armed Forces -- The Code of Laws Dealing With Military Service."

The life and combat activity of the Soviet Armed Forces are strictly regulated by military regulations, which are justly called a code of laws dealing with military service.

The military regulations embody the behests of V. I. Lenin to the defenders of the socialist Motherland and contain in concentrated form the very rich combat experience of the older generations of Soviet fighting men. They reflect the requirements of the CPSU and the Soviet government concerning the maintenance of iron-firm military discipline and the constant combat readiness of the troops and the naval forces. The regulations express the policy of the CPSU with regard to the questions of building the Armed Forces and instructing and educating the personnel. The regulations are a well of wise advice and precepts. They are, as it were, an encyclopedia of military knowledge.

The beginning of the creation of the Soviet military regulations goes back to the years of the civil war. In the autumn of 1918 the VTsIK [All-Russian Central Executive Committee] approved the *Knizhka krasnoarmeytsa* [Red Army Man's Booklet]. In late 1918 and early 1919 the first Soviet military regulations were issued: Internal Service Regulations; Garrison Service Regulations; Field Regulations; Infantry Drill Regulations; and Disciplinary Regulations. Subsequently they were changed and supplemented in conformity with the development of the Armed Forces.

The combined-arms regulations that are currently in effect were introduced in 1975. They contain the most complete reflection of the present-day level of military science and military art, take into consideration the fundamental reforms in military affairs that were caused by scientific-technical progress, and creatively generalize the many years of experience in instructing and educating the personnel.

The requirements of the combined-arms regulations -- the Internal Service Regulations; the Disciplinary Regulations; the Regulations for the Garrison and Guard Services; and the Drill Regulations -- pertain in equal degree to the military personnel in all units [*chast'*], ships, and subunits [*podrazdeleniye*] of the Soviet Army and Navy, and the border and internal troops. The first three sets of regulations were approved by the Presidium of the USSR Supreme Soviet and have the legal force of statewide law.

Internal Service Regulations of the USSR Armed Forces

These regulations define the overall and on-the-job duties of various categories of military personnel, and the interrelationships among them, between chiefs and subordinates, and between senior personnel and junior personnel. They set forth the procedure for issuing and executing military orders, and the rules for military respect. The regulations states precisely the tasks and duties of persons in the daily detail.

The regulations contain the text of the military oath, and the Statute Governing the Combat Banner of the Military Unit.

Disciplinary Regulations of the USSR Armed Forces

These regulations set forth with the maximum amount of clarity the essence, content, and basic requirements of Soviet military discipline -- one of the most important conditions of the combat capability and constant combat readiness of the troops and the naval forces. These regulations define the disciplinary rights of commanders and chiefs and the types of commendations and punishments to be applied to military personnel. They establish the procedure for imposing and executing disciplinary punishments, and for submitting and considering the recommendations, statements, and complaints of the military personnel.

Regulations of the Garrison and Guard Services of the USSR Armed Forces

These regulations regulate the questions of organizing and performing these services. They define the rights and duties of the garrison officials and the military personnel who are performing the guard service. They establish the procedure for conducting garrison measures with the participation of the troops, and the laying of wreaths at monuments and graves of fighting men who fell in combat engagements for the honor, freedom, and independence of our Motherland.

Drill Regulations of the USSR Armed Forces

These regulations were put into effect by order of the USSR Minister of Defense. They contain a clear-cut definition of the formations of the subunits and units; the reguirements of the drill instruction of the troops; and the rules governing the actions of the subunits in deployed, march, and precombat formations. The regulations also set forth the duties of the soldiers (sailors) before being put into formation and while in formation, and the procedure for their execution of drill movements and the giving of the salute.

In addition to these combined-arms regulations, which are uniform for all military personnel in the Soviet Armed Forces, there exist the Shipboard Regulations, which

completely regulate the life and combat training of sailors who are performing service on ships; as well as the combat regulations and manuals dealing with individual types of combat training and combat activity.

The importance of the regulations in the life of the army and the navy is exceptionally great. They enable a person to gain a deeper understanding of the essence of military service and define the principles of instructing and educating the military personnel, and their interrelationships.

The principal, chief idea in the combined-arms regulations is utter devotion to the socialist Homeland; faithfulness to military duty, to the military oath; unselfish service to the nation; and personal responsibility of every serviceman for the defense of the Soviet Motherland and for the maintenance of conscious military discipline and the constant combat readiness of the troops. The first article of the Internal Service Regulations states, "A serviceman in the USSR Armed Forces is the defender of his Motherland, the Union of Soviet Socialist Republics. The serviceman bears personal responsibility for defending his Motherland. . ."

A very important requirement that is constantly present in all the combined-arms regulations is that of learning which is needed in wartime. In order to implement that requirement, the broadest opportunities are granted in the process of field drills and exercises, ocean cruises and flights, and tactical, drill, fire, and special training. Success in modern combat will depend upon the combat skill, stamina, and the will to win on the part primarily of those who are sitting in front of missile control panels and radar screens, who drive the tanks and armored personnel carriers, who service the individual areas of responsibility on combat vessels, who take aircraft up into the sky, and who enter into combat in an attacking formation.

In the maintenance of the constant combat readiness of the troops and naval forces, success would be inconceivable without the exemplary, efficient operation by the serviceman of the combat technology and armament. Combat technology in our time is a very complicated set of devices. The procedure for operating it is defined by the appropriate manuals and instructional guides. Deviations from these requirements, and failure to observe the established rules for operating the technology and for the sequence of actions are completely inadmissible, since they can result in accidents and breakdowns and can interfere with the resolution of the task that was assigned.

It is especially necessary to execute strictly the requirements stated in the regulations, instructional guides, and manuals when performing combat duty. Performance of combat duty requires, to a degree that is unmatched anywhere else, exceptional vigilance, personal discipline, the strictest procedure, and precision in all respects. The fighting men who are performing combat duty and executing the duties of sentries to protect and defend combat banners and various military objectives during peacetime are resolving a combat task. Therefore they must be ready at any second to be the first persons to execute their sacred military duty, as ordered to by their oath and the military regulations.

A requirement of absolutely fundamental importance in the regulations is that the serviceman be disciplined. V. I. Lenin noted with pride, "The Red Army created

unprecedentedly firm discipline not by means of the stick, but on the basis of the consciousness, devotion, and selflessness of the workers and peasants themselves." The Leninist behests concerning the necessity of taking all steps to reinforce military discipline have not only not lost their importance today, but have taken on even greater importance. Comrade L. I. Brezhnev said, "Today, when the decisive role in military affairs belongs primarily to collective types of weapons, and when the success of employing them depends upon the skillful and well-coordinated actions of many individuals, exceptional importance is attached to the high state of organization, to the constant self-control and impeccable willingness on the part of everyone to execute orders. Even individual manifestations of carelessness or lack of discipline on the part of military personnel can lead to serious consequences." The fight for the further rise in the level of personal discipline, organizational spirit, and procedure among the personnel has been made one of the basic tasks in the reports of the USSR Minister of Defense and the chief of the Main Political Administration of the Soviet Army and Navy at the 6th All-Army Conference of Secretaries of Primary Party Organizations, and in military orders.

Military discipline, as the regulations state, require every serviceman: to observe strictly the USSR Constitution and Soviet laws; to fulfill precisely the requirements of the military oath and the military regulations, and the orders and commands of the commanders (chiefs); to withstand staunchly all the difficulties and deprivations of military service; to spare neither his blood nor life itself when executing his military duty; to observe strictly the requirements of military and state secrecy . . .

A truly disciplined fighting man is one who knows the regulations, who skillfully and eagerly follows the principles stated in them, and who implicitly, precisely, and promptly executes the orders and commands of the commanders (chiefs) at any price, despite any obstacles or dangers.

A military order is not subject to discussion, is not subject to doubt. One must teach oneself to observe this principle from the very first days of one's service. One must strive to react instantaneously to an order issued by the commander.

Why must every soldier, every sailor obey implicitly his commander, attempting to stay on the same level with him in training and the performance of duty, to take one's example from him in all respects? It is because the commander is a person who has been given the special trust of the Soviet people. He is a model of ideological maturity and military skill. The commander possesses thorough and varied knowledge and experience. One can and must learn a lot from him.

The strength and inviolability of Soviet military discipline lie in the fact that it represents the fusion of the official and moral duty of the soldier and the sailor, their state duties and the command of their own conscience. Military discipline is a component part of state discipline, and every instance of lack of personal discipline is viewed by us not only as a violation of the law and the regulations, but also as a deviation from the standards of communist morality, as an act that is incompatible with the honor and dignity of the Soviet fighting man and citizen. That is why the problem of the further reinforcement of military

discipline pertains to every specific individual. This is required by the regulations and by life itself. "Without strong discipline," USSR Minister of Defense, Marshal of the Soviet Union D. F. Ustinov emphasized at the 6th All-Army Conference of Secretaries of Primary Party Organizations, "there is no combat readiness. This is axiomatic."

Is it difficult for a young man who has put on a military uniform for the first time to follow strictly, from the very first days of service, the spirit and letter of the regulations? For some, at first, it may indeed be difficult. Much depends upon the consciousness of the young fighting man, his stubbornness, his desire to develop within himself as rapidly as possible those qualities that are necessary in army life, such as the highest level of personal discipline, willingness to execute orders, and combat skill.

The armed defenders of the Motherland, like the rest of the Soviet nation, share today the same deeds and thoughts -- the desire to expend all their efforts, knowledge, and experience in completely implementing the decisions of the 26th CPSU Congress, and the requirements of the 6th All-Army Conference of Secretaries of Primary Party Organizations and the 19th Komsomol Congress.

The new upsurge in the rate of political activity in the army and navy has been evoked by Comrade L. I. Brezhnev's report at the May 1982 Plenum of the CPSU Central Committee and the decisions of the Plenum that adopted the USSR Food Program. In response to the concern shown by the party for the welfare of the nation, Soviet fighting men have been broadening more and more, with every passing day, the competition for the worthy meeting of the sixtieth anniversary of the formation of the USSR, have been steadily increasing their vigilance and combat readiness, and vigilantly guarding the peaceful labor of the Soviet nation. They are required to do this by their constitutional duty and by the requirements stated in the military oath and the regulations of the USSR Armed Forces.

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LOGISTICAL SERVICES AND SPECIAL TROOPS

CENTRAL FOOD DIRECTORATE CHIEF ON FOOD PROGRAM

Moscow SOVETSKIY VOIN in Russian No 18, Sep 82 (signed to press 30 Aug 82) pp 22-23

[Interview with Colonel General Ivan Danilovich Isayenko, Chief of the Central Food Directorate of the USSR Ministry of Defense, by L. Seregina: "Unity -- Both of Ideas and of Deeds"]

> [Text] The USSR Food Program for the Period Until 1990, which has been approved by the May 1982 Plenum of the CPSU Central Committee, has encountered a lively response on the part of the entire Soviet nation and all the fighting men in the Armed Forces.
>
> While reliably defending the creative labor of Soviet citizens, the Armed Forces are also making a substantial contribution to the implementation of the Food Program.
>
> Our correspondent conducts an interview with the Chief of the Central Food Directorate, USSR Ministry of Defense, Colonel General I. D. Isayenko.

[Question] Ivan Danilovich, the Food Program, as a very important component of the party's economic strategy for the forthcoming decade, by every line of it, is dear to the heart of each of us. Would you please share your ideas about this important document, with which the further rise in the national standard of living and the welfare of the nation are linked.

[Answer] The long-term Food Program rests upon Marxist-Leninist theory, upon the experience of socialist construction, and the modern achievements of science and technology. The historic significance of this document is inestimable. Not a single government in a single country of the world, during the entire period of recorded history, has elevated to the level of a state problem the problem of how to provide the populace of its country with food. And when one thinks deeply about the meaning of the program, one recalls a distant and stern time -- the first steps taken by the Soviet authority. Approximately 60 years ago, within a few hours after taking the Winter Palace, the Leninist Land Decree was adopted. One also recalls the first successes in kolkhoz construction, which put our country's agriculture on a socialist basis. In the center of attention of the Soviet authority there has always been, is now, and always will be concern for the individual, for the creation of the most favorable conditions for his complete and harmonious development. The Food Program, as a nationwide matter, is near and

dear to the fighting men. It applies to each of them. When cutting off a slice of the nationwide loaf of bread, any one of us must sense an inner need to make his contribution to the carrying out of this wide decision by our party.

[Question] The personnel in our Armed Forces have been provided with a well-balanced diet, determined on a scientific basis with a consideration of the needs of various groups of military personnel. Does all this mean that the army is only a consumer?

[Answer] Absolutely not! During the first prewar years, at a difficult period of time, the Armed Forces shared with the nation the concern for the restoration of the country's economy: military units began to set up messhall and galley farms. At airfields, tank fields, and test ranges, crops, kitchen gardens, and pastures were set up at military sovkhozes. And you can note that the land is being used in a twofold manner: as an area for training the fighting men, it serves to increase their combat readiness, and as a field, it serves to provide them with agricultural produce. On the territory of military units and not far from them, one can always find small plots that are unsuitable for machine cultivation. One the basis of an understanding with the local agencies of authority, the unit's command element can always designate this otherwise useless land for use by the personnel: they can succeed in growing vegetables there, and maintain livestock, and plant an orchard.

[Question] The beauty and large benefit, the advantage with this kind of intelligent approach to the land is obvious. . .

[Answer] I would like to add that even with the soldiers' most thrifty attitude toward grain, and despite the fact that these brawny lads do not complain either about the variety of the food or about a lack of appetite, a certain amount of waste food always forms at dining halls. We have learned to look at them with the point of view of a businessman, and a kind of closed cycle has arisen: the fresh meat produced in the military unit -- and the waste food had served as fodder for the animals -- arrives at that very same soldiers' table. It must be noted that the number of animals being maintained is usually larger than the amount of waste food permits. They obtain additional fodder from the use of the land within the confines of the unit's disposition area, or close to it. For example, the mowing of lawns provides additional fodder for the animals' ration. And, what is especially interesting, even in the North one can find reserves. I recall how once, in the transpolar area, we dropped in on an animal farm where officer's wife Natal'ya Mitrofanovna Dolgikh was working. One could sense that she really loved her work. She had sown grass around her house in order to add it to the ration of the transpolar brown cows. It must be said that her love for her animals proved, as a result, to be extremely profitable. The milk yields from each cow increased here to 4000 liters per year. And that was in the North.

Many people do not completely understand what this food problem is in its "military key." The fighting men who service the new modern technology are located, in the full sense of the word, in extreme conditions. A diet of ordinary products cannot replace for the fighting man the tension of his mental and physical efforts, his nervous overloads, or maintain his stamina. The organism has a great need for special substances. And so the military specialists developed, on the basis of the latest scientific data, recipes for preparing these products.

I would like to add to this other aspects of the problem. Take, for example, the submarine fleet. A monthlong cruise used to be considered a considerable period of time. Back then, when loading a submarine with food supplies for the personnel, not too much concern was taken of the fact that that would require exceedingly large storage areas. At the present time a submarine that spends more than a single month in its independent navigation has to be supplied in such a way that the food supplies do not occupy a large amount of space, does not require special processing or conditions for storage, and does not produce any waste products.

Or take the aviators. They are provided with new designs of aircraft, with a large flight-time reserve. It used to be that the pilot was fed before takeoff, and was given a compact and nutritious reserve. But now a military pilot can be separated from the earth for many hours, and he needs regular and nutritious food. But even under ordinary conditions on the ground, you cannot, for example, do without field bakeries, without complicated technical means for processing the products exactly where they are needed.

Incidentally, let us return to the chief aspect of your question. I would like to emphasize that every unit, when using its own efforts to produce meat, milk, or vegetables, subtracts from the amounts taken from state funds exactly the same amount of food as is produced locally. The army has a need for fresh agricultural produce. But this is not yet our entire assistance to the country in the resolution of the food-supply questions. Especially since the unit, the large unit [*soyedineniye*], or military district are provided with meat supplies, fresh vegetables, and grain from the new harvest. Thanks to this, there has been a substantial reduction in the expenditures for shipping, and a saving of fuel, electric energy, and transportation.

For purposes of graphicness, I would like to add that the delivery of food supplies to the Far East, when no military sovkhozes were located there, used to cost millions of rubles. And the Northern Fleet used to be provided with products of animal husbandry from the center of the country -- that also used to cost the country a pretty penny. Now the sailors are completely provided with these products thanks to their own economic initiative. One could cite many other facts that would also show that, for the army, the fulfillment of the assignments in the Food Program is a vital job.

[Question] Ivan Danilovich, could you please tell us about the main achievements of the agricultural enterprises of the Ministry of Defense during the years after the March 1965 Plenum of the CPSU Central Committee.

[Answer] The workers in the agricultural enterprises of the Ministry of Defense, together with the rest of the Soviet citizens, fulfilled the tasks posed by the party. During the years that have elapsed, there has been a reinforcement of the material base at our agricultural enterprises, an increase in the amount of energy provided to them, and new animal-husbandry complexes and poultry farms with industrial technological methods of production have been introduced. There has been an almost tripling of the deliveries of tractors, trucks, farm technology, and mineral fertilizers. There has also been a tripling of the production of

grain; we are producing 1½ times more potatoes and vegetables; almost twice as much meat; and five times as many eggs. There has been an increase in the number of head of cattle and hogs, and the number of sheep, in comparison with 1965, has increased five-fold, and poultry, has more than tripled.

In our Ministry's system, there is a large number of military sovkhozes, subsidiary farms, and special dairy farms, and the military units have their messhall farms. They cultivate thousands of hectares of land and contain tens of thousands of head or cattle, hundreds of thousands of hogs and sheep, and more than a million head of poultry. By type of service, I have been connected with the food support of the army since the wartime, and I shall soon celebrate my thirtieth anniversary in the Central Food Directorate. I have seen the military sovkhozes develop before my very eyes. Each such collective has its own rich history, its own heroes. We have seen the sovkhoz in the virginlands, the biography of which began with tents in the Central Asian sands. Now it supplies with choice onions the northern and eastern military districts. The Oktyabr'skiy Sovkhoz in the Central Asian Military District produces 250 quintals of potatoes per hectare on an area of 1000 hectares.

You, of course, understand that without unselfish people who know and love their business, without excellent professionals, the military agricultural enterprises could not have achieved these results. And these achievements, for example last year, are the following: despite the drought and floods, the plans for the turning over of produce to the troops were overfulfilled as a whole, and the amount of net profit obtained came to approximately 20 million rubles. In military agriculture, as with the laborers in the fields and on animal farms throughout the country, the socialist competition has been widely extended. The pledges taken by brigades, teams, and individuals have been high, and they are reconsidered and adjusted by the participants in the struggle for supplying the nation with a sufficient amount of grain, and are being put into conformity with the new tasks that have been advanced by the Food Program. Every year, within our system, 700-800 persons are awarded the badge "Winner in Socialist Competition." In our Armed Forces, on the Stepnoy Sovkhoz, Hero of Socialist Labor, team leader Vladimir Romanovich Yanovskiy pledged that he would harvest on a large area 55 quintals of grain per hectare, and, despite the severe weather conditions, he kept his word. On the same sovkhoz in the Ukraine, Anastasiya Petrovna Fit'o is one of the workers. Twice she has been awarded the Order of Labor Glory. Our farms have a large number of recipients of the Orders of Lenin, the October Revolution, and other orders.

[Question] Yes, our nation is rich in industrious, initiatory people, who are experts in their field. It is obvious that the manpower and opportunities for making a worthy contribution to the fulfillment of the Food Program in our military agriculture are substantial. But what specific actions are being undertaken specifically in the light of the principles enunciated in the program?

[Answer] A detailed plan has been developed and is being fulfilled for the economic and social development of all links in the agricultural activities within the Ministry of Defense system. Provision has been made for an increase of 1½ times in the production of output, as compared with the level that was achieved during the 10th Five-Year Plan. The basic increase in production is planned in the remote

areas of the Far North, the Far East, the trans-Baykal, Siberia, and Central Asia. One can understand the vital need for providing the remote garrisons with fresh produce. A large amount of attention has been paid to increasing the preservation rate and improving the quality of agricultural produce. Modern storage facilities will be built to store potatoes and vegetables, and enterprises to process and pickle them will be built on the military sovkhozes themselves. I shall not dwell in detail on the points in the plan that pertain specifically to the sovkhozes in each military district, or the individual types of produce. But it is clear that their fulfillment requires every specialist, every manager, to apply all his efforts, genuine creativity, and constant work to improve himself, to increase his knowledge, and master advanced experience.

Messhall and galley farms will receive broad development in all military units, and especially the comprehensive type of farms, for providing the needs of individual small subdivisions [*podrazdeleniye*].

By 1985 the messhall farms will produce, for each person receiving rations, 15 kilograms of meat, and the same amount of vegetables and hothouse greens. Far from the last place in our plan is given to the individual plots worked by the military personnel and their families, and the workers and employees of the Soviet Army and Navy.

[Question] What kind of equipment will the military sovkhozes receive?

[Answer] During the 11th Five-Year Plan alone, they will receive 1800 tractors, 1700 trucks, and 600 grain-harvesting combines. There is a large number of different areas in the state program. The program embodies the special-purpose, comprehensive approach to the resolution of the food problem. "Preparation for and the carrying out of this program is a fundamentally new step in the system of our planning, in the administration of the socialist economy," Comrade Leonid Il'ich Brezhnev noted. Yes, the fulfillment of the Food Program would be inconceivable without the comprehensive encompassing of all its aspect. It presupposes the coordination of the actions of entire branches of the economy, the improvement of the system of administration, the increase in the time-responsiveness of the entire apparatus. The military agricultural enterprises, sovkhozes, and other entities are a complicated system. And the unification of all subdivisions that support the production, procurement, and storage of agricultural produce, as well as the organization of the feeding of the military personnel into the district's Food Service, or the fleet's Food Service, will make it possible to resolve more successfully the important state tasks. Agricultural enterprises are introducing the shop structure of administration of production. In the Food Service of the Center, and the military districts and fleets, there have also been created special groups that provide for the skillful management of the messhall farms at the military units, and the subsidiary farms at enterprises, organizations, and institutions.

[Question] What can you say about the measures that have been planned for social development within the agricultural system of the Ministry of Defense?

[Answer] First of all, it has been planned to increase the scope of housing construction. New schools, children's institutions, and production areas will appear. In order to raise the proficiency level and improve the training of the

administrative personnel and the agricultural specialists in the Ministry of Defense, on the basis of one of the military sovkhozes a training center is beginning to operate. Everything is being do to assure the largest possible number of fighting men who have been put in the reserve will come to our military agriculture. In this regard I would like to remind you of the words contained in the report of B. N. Pastukhov to the 19th Komsomol Congress: "The Soviet Army is for everyone a school for the rest of his life. At the plant or factory, on the kolkhoz field, at the shock communist construction site -- we recognize the proper military bearing, combativeness, the ability to set the tone in lads about whom one can say, 'Once a soldier, always a soldier!'" The military agricultural enterprises can rely strongly upon these well-disciplined Komsomol members, who are working with that brilliant spark of enthusiasm.

[Question] In a word, Ivan Danilovich, the army's contribution to the fulfillment of the program is already concern for today.

[Answer] A very important task is to bring in the new 1982 harvest within the optimal deadlines and without any losses, to keep it intact, to increase the number of head of livestock, and to lay in sufficient quantities of fodder for this purpose. We must develop and introduce progressive methods for storing the food supplies -- with the use of cold, active ventilation, the regulated gas environment, and other innovations, methods of processing without any waste products the output of vegetable and animal husbandry, and must develop special types of packaging and containers. The work ahead of us is large, but we have large reserves, and we must use them intelligently and creatively. We are all working on the same field. Honest work at harvest time on one's own field is the pledge of the carrying out of the Food Program. And, in response to the concern demonstrated by the working hands, the land will yield up a richer harvest.

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PERCEPTIONS, VIEWS, COMMENTS

TABLE OF CONTENTS OF 'ZARUBEZHNOYE VOYENNOYE OBOZRENIYE', FEBRARY 1982

Moscow ZARUBEZHNOYE VOYENNOYE OBOZRENIYE (Foreign Military Review) in Russian
No 2, Feb 82 (signed to press 10 Feb 82) pp 1-2

[Full-text translated articles published in this issue of the report are indicated with an asterisk (*); excerpted translation -- with a double asterisk (**)]

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The articles by Soviet authors and the chronicle are based on materials in the foreign press. This issue contains illustrations from "Jane's" and the following journals: AVIATION WEEK AND SPACE TECHNOLOGY, ARMADA, ARMY, ASTRONAUTICS AND AERONAUTICS, WEHRTECHNIK, DEFENSE, SOLDAT UND TECHNIK, INTERNATIONAL DEFENSE REVIEW, MICROWAVE SYSTEMS NEWS, MILITARY TECHNOLOGY, NATO'S 15 NATIONS, FLIGHT, AIR ET COSMOS, and OESTERREICHISCHE MILITAERISCHE ZEITSCHRIFT.

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PERCEPTIONS, VIEWS, COMMENTS

NEED FOR VIGILANCE AND CONSTANT COMBAT READINESS STRESSED

Moscow ZARUBEZHNOYE VOYENNOYE OBOZRENIYE in Russian No 2, Feb 82 (signed to press 10 Feb 82) pp 3-6

[Lead article: "Constant Vigilance is Our Weapon"]

[Text] The historic contest between two opposing sociopolitical systems -- socialism and capitalism -- has recently become particularly acute. The U.S. ruling elite, in league with reactionary circles in the other NATO member countries, is counting on succeeding in achieving far-reaching plans to establish world domination with the aid of the arms race, military-political confrontation with the socialist world, and employment of force against the national liberation movement. Representatives of big business seek to carry the struggle between capitalism and socialism out of the realm of peaceful economic competition into the area of escalation of political and military tension and nuclear brinksmanship.

No matter how hopeless and illusory the imperial, hegemonist ambitions of Washington, this does not make U.S. and NATO military preparations less dangerous. On the contrary, in present-day conditions irresponsible playing with fire is constituting an increasingly greater threat to peace and the freedom of peoples, and carries the danger of nuclear missile catastrophe. Excessive quantities of death-dealing weapons have been amassed in the arsenals of the Western nations, and the actions of those who are presently formulating military-political policy in Washington look to be excessively dangerous. "Adventurism, willingness to gamble the vital interests of mankind for the sake of their own narrow, selfish aims," it was stressed at the 26th CPSU Congress. "This is being particularly glaringly revealed in the policy of the most aggressive imperialist circles." Imperialism employs the most diversified means to achieve its aims, from outright employment of armed force or threat of force to ideological sabotage and other forms of subversive activities.

All this demands of Soviet citizens, army and navy personnel the highest degree of vigilance and constant readiness to repel any aggressor and to defend the achievements of socialism. V. I. Lenin, founder of the Communist Party and Soviet State, pointed out time and again that we must always be on guard and keep a vigilant watch for intrigues by the class adversary. V. I. Lenin's instructions that "extreme military discipline and military vigilance are essential" ("Poln. Sobr. Soch." [Complete Works], Vol 39, page 55) in the struggle

with the insidious foe ring true again and again with current significance. These demands are formally stated in documents of the CPSU and Soviet Government, military regulations and the military oath, corresponding orders and directives.

Vigilance is a capacious, multifaceted term. It is manifested in the ability to gain one's bearings in a situation from a class position, to expose any and all reactionary intrigues, regardless of whatever clever and resourceful devices behind which they may be concealed, in strictly keeping party, state and military secrets, and in taking all measures of precaution to nip in the bud antisocialist, counterrevolutionary actions by the enemies of socialism.

Standing out first and foremost in the content of vigilance is political vigilance, grounded in Communist, ideological conviction, the highest level of patriotism and love for the homeland and the community of socialist nations, and in awareness of one's internationalist duty. Political vigilance consists in a profound understanding by each and every serviceman of the international and military-political situation in individual regions and countries, in the ability to recognize the enemy's insidious intrigues and successfully to counter his acts of ideological sabotage and other forms of subversive activity, and in decisive refutation of slanderous lies and provocational rumors.

In the military area vigilance is closely linked with combat readiness, the capability to come to the defense of the homeland, its allies and friends at any moment, and to carry out assigned combat missions. Vigilance is manifested in maintaining one's assigned weapon and combat equipment in a continuous state of readiness and in ensuring secrecy in the conduct of various measures. It possesses particular importance in troops stationed abroad, as well as troops standing alert duty, performing tasks of guarding military installations, plus other special missions. Vigilance is inconceivable without a high degree of military discipline, organization and strict observance of regulations.

In the moral-psychological domain, vigilance signifies profound awareness by each and every serviceman of his military duty, unswerving observance of the demands of the military oath, regulations and instructions, and the capability to maintain high combat qualities -- staunchness, courage, and the will to win -- both in normal and in critical situations, which demand maximum exertion of all moral and physical resources.

In efforts to increase political vigilance in present-day conditions, it is essential to proceed from the conclusion of the 26th CPSU Congress on the sharp increase in the aggressiveness of the policies of imperialism, particularly U.S. imperialism. The adventuristic course of policy on the part of imperialist forces has led to a substantial increase in tension in the world arena, with all the dangerous consequences proceeding therefrom, and the military-political situation has become appreciably more complex. Many facts of international affairs confirm that there has never before been a period in history when the policies of nations and the fate of entire peoples on all continents have been manipulated as shamelessly and cynically, with such undisguised selfishness as is presently being done by aggressive imperialist circles. Their monstrous gamble in this game is a threat of unleashing a nuclear world war and the annihilation of hundreds of millions of persons.

In relations with the Soviet Union and the other nations of the socialist community, U.S. ruling circles place main emphasis on an all-out increase in strategic nuclear potential. Their aim is to disrupt the existing military-strategic balance between the United States and the USSR, NATO and the Warsaw Pact, and to achieve unilateral advantages and military superiority.

Precisely this is the objective of the new program of development of U.S. strategic nuclear forces, announced by President Reagan in October 1981, on which more than 180 billion dollars will be spent in the next five years. It specifies qualitative rearming of all the component elements of the U.S. strategic "triad" -- intercontinental ballistic missiles, missile-armed nuclear submarines, and strategic bombers, as well as improvement of the control system for these forces and increased survivability. One's attention is drawn by the fact that this program, to an even greater degree than preceeding ones, focuses on preparing U.S. nuclear forces to launch a sneak first strike on military and industrial targets in the USSR. The fact that Washington refuses to make a clear and unequivocal declaration rejecting the very idea of nuclear attack as criminal clearly shows how sinister are the plans being nurtured by the Pentagon.

Having adopted a policy of seeking military superiority, U.S. ruling circles are proceeding to undermine many treaties and agreements which hinder them from attaining their stated objectives. The U.S. Administration rejected the SALT II Treaty and unilaterally refused to engage in talks on total and universal banning of nuclear weapons testing. The United States is dragging out talks on reduction of forces and arms in Central Europe. The United States is to blame for thwarting talks on matters pertaining to the Indian Ocean. Washington's decision to proceed with production of neutron weapons is another step toward escalation of the arms race and aggravation of the world situation.

Observance of a high degree of political vigilance by army and navy personnel also demands awareness of the fact that the United States is more and more drawing its military-political bloc allies and bilateral agreement partners into a reckless policy which is pushing the world toward escalation of the arms race and toward war. First of all, Washington is persistently seeking unconditional execution by its Atlantic partners of the long-range NATO military program (adopted in 1978) and the decision to deploy in Western Europe a new generation of U.S. nuclear missile weapons (in 1979).

Like the component parts of the U.S. strategic nuclear "triad," the new U.S. intermediate-range nuclear missile weapons are first-strike weapons. Their deployment pursues the aim of achieving military superiority in Europe and of gaining the capability to launch an attack on the Soviet Union which, in the opinion of the Pentagon, would strip the USSR of the capability to deliver a response strike on the United States.

Washington is intensifying its pressure on allied and dependent countries in other regions as well. In particular, it is stubbornly insisting on a substantial increase in Japan's contribution toward collective preparations by the West and is seeking an increase in China's military potential and the establishment of an aggressive Sino-American alliance in the Far East. Endeavoring

to establish U.S. domination in the Near and Middle East, the United States is increasing its military presence in this region, is forming punitive "rapid deployment forces," is expanding its network of military bases, and is putting on militarist shows of force jointly with its partners. Washington is planning to draw the countries of Southeast and Southwest Asia into military-bloc relations and is undertaking active measures to establish a new military-political bloc in the South Atlantic with the participation of several Latin American countries and the Republic of South Africa.

In relations with the nations of Asia, Africa, Central and South America, the United States has elevated aggressive colonialism and neocolonialism to the status of official policy. The United States is counting on the support of the most reactionary, fascistic, militarist, and corrupt governments and counter-revolutionary groups and on organizing special forces designated for crushing the national liberation movement. Imperialism is creating crisis situations in various parts of the world and is crudely intervening in the internal affairs of other nations.

The United States is supplying arms to interventionist bands being sent into Afghanistan and to the dissident UNITA group, which is acting in concert with the Republic of South Africa against sovereign Angola. The White House is arming the military junta in El Salvador and is threatening armed intervention in the affairs of that country if the national-patriotic forces are victorious there. Outright threats are being directed toward socialist Cuba.

All this convincingly attests to the fact that Washington's foreign policy is characterized by a striving toward global expansion and by struggle against the forces of socialism, the national liberation and democratic movement. A policy of dictate, a cult of force, and interference in the internal affairs of sovereign nations have become typical for the approach of the United States toward resolving international problems.

Indoctrinating army and navy personnel in a spirit of strong vigilance, it is essential to bear in mind that the increase in aggressive military preparations is being accompanied in the United States and NATO by intensification of anti-Soviet and anticommunist propaganda. Essentially what is happening is a steady escalation of lies and slander against our country and its Armed Forces. The campaign of slander around the myth of a "Soviet military threat" has assumed a particularly large scale, as is attested in particular by publication of the Pentagon-fabricated pamphlet entitled "Soviet Military Power." Fantastic stories disseminated by the Reagan Administration about involvement by the Soviet Union in "international terrorism" received a new impulse in connection with publication of a special State Department document which claims that the "hand of Moscow" is behind all national liberation and antiwar movements, as well as behind all U.S. failures.

U.S. propaganda openly declares the Soviet Union to be the principal U.S. adversary, advocates the "possibility" and "admissibility" of nuclear missile war, and substantiates the "right" of armed intervention in the internal affairs of other countries and peoples. All this is aimed at bolstering material preparations for ideological warfare, in order to secure a suitable moral-political

climate for implementation of the aggressive colonialist schemes of the U.S. ruling elite.

At the same time the policy line of imperialist circles directed toward aggravation of the international situation is expressed in sharp activation of all forms of subversive activities against our country and the socialist community as a whole. In conditions of lack of open military confrontation, propaganda, intelligence and other special services constitute the principal striking force of imperialism in its attempts to do detriment to the USSR and the other socialist countries. A high degree of vigilance on the part of each and every Soviet citizen is needed to counter these dangerous intrigues.

The scale of ideological sabotage against the socialist countries, and particularly against the leadership role of the Communist parties and their influence in the masses, is increasingly widening. Ideological sabotage is directed toward "erosion" of Communist ideology, propagation of bourgeois ideology, disorganization of political and economic life, and revival of the capitalist order. Precisely this is the aim of the campaign of slanderous propaganda unleashed against Poland with the objective of destabilizing the situation in that country and its position in the world arena.

Imperialist propaganda, with which Beijing propaganda is increasingly acting in concert, is waging a furious offensive on the minds of Soviet citizens and is endeavoring, with the aid of the most sophisticated methods and modern technical means, to poison their consciousness with slander against our realities, to besmirch socialism, and to embellish imperialism and its predatory, inhuman policies and practices. Many subversive actions are aimed directly at Soviet young people, including military personnel.

The intelligence and propaganda services of imperialism, in the conduct of ideological sabotage against the USSR and the other countries of the socialist community, in addition to employing official propaganda agencies, rely on emigré nationalist and Zionist organizations which have been created and are financed by these services. A total of more than 400 subversive anti-Soviet centers, organizations, committees, and groups are operating against the Soviet Union. Aggressive preparations for the conduct of psychological operations are conducted in the armed forces of the United States and the other NATO countries.

In efforts to increase political vigilance, one should also bear in mind the fact that in connection with growth of the military preparations of imperialism, its intelligence penetration is organized on a broad front, in the course of which both legal and illegal possibilities are utilized. Viewed as one of the most important missions is the collection of intelligence on the economic, political, and moral preparedness of the peoples of the USSR to withstand the burden of an arms race which has escalated through the fault of imperialism, and even the possible trials of a nuclear missile war. U.S. intelligence is also exerting great efforts to collect information of a political nature, including USSR plans on current international questions, relations with the socialist and liberated countries, and the situation within our country. Particular importance is attached to obtaining intelligence on military and

industrial installations which are viewed as primary targets for nuclear strikes. Imperialist spies are aggressively attempting to obtain intelligence on concentration and redeployment of Soviet military units, special transport operations and other activities. Since in the USSR there is no social base for recruiting agents, the intelligence services of the imperialist nations count on isolated anti-Soviet, nationalist elements, on politically unstable or morally degraded individuals who are inclined toward material acquisitiveness and a parasitic way of life. Although these actions as a rule are given a proper rebuff by Soviet citizens, they demand constant attention on the part of commanders and political agencies.

Our party, proceeding from the interests of the Soviet Union and all the peoples of the planet, are countering the militant adventurism of aggressive imperialist circles with a sharply defined and clear program of defending and strengthening peace. The 26th CPSU Congress advanced a large number of proposals pertaining to the key problems of international affairs. They specify curtailment of the arms race, elimination of focal points of tension, and strengthened building of confidence among nations. These proposals encompass both the political and the military domain, apply to nuclear missile and conventional arms, and pertain to the situation in the various regions of the world.

At the same time the CPSU does not for a single day fail to address questions pertaining to strengthening the defense might of this country and its Armed Forces, demanding that they always keep their powder dry and reliably guard the peaceful labor of the Soviet people.

It is our duty to counter the aggressive preparations of imperialism, the subversive political and ideological activities of the class enemy, and his vicious slander against socialism with unswerving cohesiveness, powerful ideological unity of our ranks, deep conviction and great vigilance on the part of each and every Soviet citizen, and his preparedness to defend the homeland and the achievements of socialism.

3024
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PERCEPTIONS, VIEWS, COMMENTS

COMMENTS ON U.S. RAPID DEPLOYMENT FORCES

Moscow ZARUBEZHNOYE VOYENNOYE OBOZRENIYE in Russian No 2, Feb 82 (signed to press 10 Feb 82) pp 7-11

[Article, published under the heading "General Military Problems," by Col V. Filippov: "U.S. 'Rapid Deployment Forces'"]

[Text] The presently existing world sociopolitical development trend is not to the liking of the U.S. military and political leaders. The United States, which bases its policy on shameless anti-Sovietism and anticommunism and which has adopted the notorious thesis of an alleged "threat from the East," is attempting to impede objective processes which are taking place in the world. The pernicious consequences of the policies of U.S. imperialism are felt by countries which have recently become liberated from colonial dependence, countries which the United States is endeavoring to hold at all costs within the domain of the capitalist system and thus to secure for itself free access to their raw material resources. Foreign experts believe that the U.S. policy concept of "armed interventionism" promotes attainment of these aggressive aims; an instrument of this policy is the so-called "rapid deployment forces (RDF), which are intended for intervention in the internal affairs of other nations and for securing, with the aid of military power, U.S. domination in the "Third World" in conditions where political and economic levers have become insufficient for this.

The idea proper of establishing RDF within the U.S. armed forces is not new. It was conceived at the end of the 1950's, when the Pentagon commenced forming highly mobile air-transportable ground forces combined units and units or, as they were called, "fire brigades." They were intended for use in areas in which "U.S. interests were being threatened," that is, in other words, in countries the peoples of which were refusing to knuckle under to the dictate of Washington.

The present concept of establishment of RDF is grounded on ideas of the most reactionary U.S. circles on the need to expand the U.S. military presence in the world and to designate a special contingent of forces for local utilization. In recent years, for example, the Near East and Persian Gulf region, with its oil wealth, has become a special target of growing U.S. imperialist pretensions. "The monopolies need other countries' oil, uranium, and nonferrous metals -- and the Near East, Africa, and the Indian Ocean are declared to be a region of U.S. 'vital interests'," stated Comrade L. I. Brezhnev in the CPSU Central Committee

Accountability Report to the 26th CPSU Congress. "The U.S. war machine is aggressively penetrating this region and is planning to deploy there on a long-term basis. The island of Diego Garcia in the Indian Ocean, Oman, Kenya, Somalia, Egypt -- what next?"

Interference in the affairs of other nations under the pretext of "protecting U.S. interests" is a permanent component of U.S. foreign policy. Plans for establishing U.S. domination in the Near and Middle East also arose not today and not yesterday, but much earlier, as is attested by the NEW YORK TIMES. At the beginning of 1980, for example, it revealed the contents of a special Pentagon report ("Military Options in the Persian Gulf"), preparation of which was initiated at the beginning of 1980 by Pentagon experts on the instructions of then U.S. Secretary of Defense H. Brown. Already in those days there was talk of the need "to establish highly mobile units which could be redeployed to this region for the conduct of combat operations." With time Washington's interventionist schemes began taking on an increasingly more concrete configuration and ominous character. The events in Iran, where the pro-American shah regime collapsed as a result of a popular movement, were used by the White House as a pretext for immediate implementation of these aggressive plans.

The concept of "mobile interventionist forces," as is emphasized by foreign experts, took firm root in the United States during the tenure of the Carter Administration, after the National Security Council, on instructions from the President, conducted an analysis of U.S. military potential and prepared a report. It stated that the United States, and particularly its armed forces, were inadequately prepared to overcome crises in the "Third World," especially in the oil-rich Persian Gulf region. Presidential Directive No 18 was issued on the basis of this analysis, specifying designation of a "special contingent of troops for local wars in the Third World." In mid-1979 then U.S. Joint Chiefs of Staff Chairman General Rogers, in an interview with correspondents, offered preliminary data on the organization and strength of the "rapid deployment forces." He stated in particular that their numerical strength would be 100,000 men, and their nucleus would consist of the 18th Airborne Corps, which contains three divisions: the 82nd Airborne, the 101st Airborne Assault, and the 9th Infantry. The present commander of the RDF is General Kingston, formerly commander of the 2nd Infantry Division, stationed in South Korea.

Demanding thorough preparation for punitive actions in the Near East and other regions, as well as increased efficiency and mobility of the "rapid deployment forces," a number of politicians expressed dissatisfaction with the "inadequate preparedness of U.S. forces."

In response to the criticism, the Pentagon assured Congress that in spite of the existence of certain deficiencies, the U.S. armed forces were capable of protecting "national interests" in the Persian Gulf region, and it was officially announced 1 March 1980 that an RDF headquarters had been formed at MacDill Air Force Base (Florida) and that these forces had been increased in strength to 200,000 men, and an additional approximately 100,000 reservists might be required for their support.

According to the plan of U.S. command authorities, at the first stage the "rapid deployment forces" would be organizationally formulated. It is believed that they could include any combined units and units of all branches of service.

The combat force level of the RDF would be determined by the Joint Chiefs of Staff Committee in each specific instance, depending on the developing situation. The commander of the RDF was authorized to enlist the following for formulating operational plans and organizing combat training: from the Army -- the headquarters of the 18th Airborne Corps, 82nd Airborne Division, 101st Airborne Assault Division, 9th Infantry Division, 24th Mechanized Division, as well as certain combat support and rear services support units; from the Air Force -- 5 tactical fighter wings, 2 tactical transport wings, 2 strategic bomber squadrons (28 B-52H bombers), strategic reconnaissance aircraft, airborne command posts and AWACS E-3A long-range radar detection and control aircraft; from the Navy -- one or two multipurpose carrier groups apiece from the 6th and 7th fleets; 1 expeditionary division.

Under normal conditions the above-named combined units and units are subordinate to the command authorities of the branches of service. For the purpose of holding exercises or in case of the situation heating up in any part of the world (outside the NATO bloc zone), where there develops a threat to U.S. "vital interest," RDF headquarters, on instructions from the Joint Chiefs of Staff Committee and with the authorization of the President, as commander in chief of the armed forces, will form a froce grouping of the required composition and strength from these units and combined units, which will be made operationally subordinate to the commander of the RDF to carry out its assigned missions.

Thus as foreign experts believe, at the present time the RDF is represented only by the commanding general and his headquarters staff. The former is subordinate to the commanding general of the U.S. armed forces joint readiness command (headquartered at MacDill Air Force Base). The RDF headquarters staff totals approximately 260 personnel. A special communications group has been established to ensure reliable communications with DOD and JCS.

At the present stage it is planned to accomplish redeployment of the RDF to the area of operations with available Air Force and Navy manpower and resources, but U.S. command authorities are of the opinion that this is clearly insufficient. According to figures in the magazine AMERICAN LEGION, 70 C-5A, 234 C-141, and 490 C-130 aircraft can be assigned to airlift these troops. Foreign experts believe that 48 hours will be required to airlift an 800-man airborne battalion and redeploy a tactical fighter squadron (18-24 aircraft) from the United States to the Persian Gulf. Three battalions of the 82nd Airborne Division can reach the Near East 1 week after receiving orders, the entire combined unit in 3 weeks, and the 101st Airborne Assault Division 2 weeks after completion of airlifting the 82nd Airborne Division. It is planned to sealift the 24th Mechanized Division, which has heavy combat equipment, and therefore its arrival in the Persian Gulf region, as the magazine reports, can be expected no sooner than in a month's time.

In order to speed up redeployment of the RDF, U.S. military leaders intend substantially to increase airlift and sealift capabilities by modernizing existing and purchasing new equipment. The U.S. Air Force, for example, has actively commenced development of a new heavy transport, the C-X. It is planned to allocate 261 million dollars to develop and test this aircraft, with 7 billion dollars to be appropriated for their series production and purchase.

U.S. Navy command authorities plan to spend approximately 3 billion dollars in the next 10 years on construction of new and refitting of existing heavy cargo vessels (a total of 14 units). They will be used as floating storage depots for RDF heavy weapons and equipment.

The Americans consider expanded use of military bases abroad located in the immediate vicinity of the Persian Gulf to be one way to solve the problem of "rapid deployment forces" rear services support. In connection with this, the United States is engaged in a hasty search for bases and bridgeheads for the RDF, from which they could take part in combat operations. According to an economic and military cooperation agreement between the United States and the Sultanate of Oman, for example, the U.S. armed forces were given permission to use air and naval bases in this Arab country and "temporarily" to station military forces there.

At the end of 1980 the Joint Chiefs of Staff Committee drew up a five-year plan for building and upgrading military bases in the Near East and Indian Ocean designated for RDF use. The precise amount of expenditures involved in implementing these plans is classified but, as was stated in the newspaper NEW YORK TIMES, total expenditures for these purposes may exceed 2 billion dollars over the five years.

The largest amount (106.4 million dollars) in the military budget for fiscal year 1982 is an appropriation for renovation of the Egyptian port and military base at Ras Banas (Red Sea). A fuel storage depot is to be built there, as well as other facilities for supplying U.S. Navy ships; the runways are to be widened to take tactical and military transport aircraft, and an area is to be set up and equipped for accommodating RDF ground troops, which can be dispatched from here to any destination in the Near and Middle East.

A total of 75 million dollars has been appropriated in fiscal year 1982 for renovating the former British military base on the island of Masirah, located off the coast of Oman. Fuel storage facilities, other service facilities, an airstrip accommodating tactical fighters, as well as a water distilling plant will be built there. It is reported that funds are being allocated for expanding the airfield at Sib (Oman) to accommodate transport aircraft, fighters and reconnaissance aircraft. Appropriations also include expenditures of 24 million dollars to repair and overhaul oil storage and other facilities in the Somali port of Berbera, and 26 million dollars for work in the Kenyan port of Mombasa. The naval base and airfield on the island of Diego Garcia in the Indian Ocean are being enlarged.

Concrete modes of action and the combat force level of the RDF contingent will be determined by the nature of an armed conflict and the availability of air bases (airfields), port facilities to offload supplies and equipment, and prepositioned supplies in the area of operations, as well as by the degree of support by a country (countries) in the region, plus other features. Airborne, airmobile, and amphibious landing operations are considered to be the principal mode of RDF combat employment.

In the opinion of foreign experts, in the initial period of an armed conflict RDF combat operations would involve the employment of conventional weapons, while subsequently (depending on the developing situation) the possibility of employment of chemical and tactical nuclear weapons would not be excluded.

The "rapid deployment forces" are engaged in active preparations for combat operations applicable to Southwest Asia. RDF headquarters regularly holds exercises both in the Continental United States and at overseas locations, involving the participation of combined units and units of all branches of service.

U.S. command authorities are of the opinion that combat employment of RDF should be based on the concept of preemptive (preventive) actions, which consists essentially in the following. When a threat to U.S. "vital interests" arises in any part of the world, a small RDF contingent (a reinforced airborne battalion, for example) would be immediately redeployed to that spot, with the aim of presenting a show of force and exerting a psychological effect on the adversary. Such a measure, as U.S. command authorities see it, should strip the adversary of his resolve to undertake any further steps which would do detriment to the United States. If the adversary refuses to give up his intentions and continues escalating the threat to U.S. "vital interests," the U.S. force grouping in the conflict area will be built up to a level requisite for resolving the given conlict situation.

It has been reported in the foreign press that U.S. Secretary of Defense C. Weinberger has made the decision to establish a separate, independent RDF command with the powers of a U.S. armed forces joint command, with this command directly subordinate to the Joint Chiefs of Staff. In the Pentagon's estimate, it will require 1.5-2 years to organize it. During this time the combined units and units designated for RDF use will continue to be subordinated to the U.S. armed forces joint readiness command. In the future U.S. military leaders plan to locate RDF headquarters or a headquarters command group in one of the countries of Southwest Asia or East Africa.

Establishment of "rapid deployment forces" by the United States constitutes a relapse to the notorious "big stick" policy, the bankruptcy of which, one would think, had been proven by history. Nevertheless U.S. military-political leaders are not abandoning their hopes of forcing their will on the peoples of a given region with the aid of military force, under the cover of expatiations about "pushing back communism" and "protecting vital U.S. interests." Such a shameless and irresponsible gambling with the fate of millions of people pursues the patently aggressive aims of U.S. imperialism.

3024
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COMMENTS ON NATO CAMOUFLAGE, CONCEALMENT, DECEPTION

Moscow ZARUBEZHNOYE VOYENNOYE OBOZRENIYE in Russian No 2, Feb 82 (signed to press 10 Feb 82) pp 11-16

[Article, published under the heading "General Military Problems," by Col A. Kol'tsov: "Camouflage, Concealment and Deception in the Armed Forces of the NATO Countries"; passages rendered in all capital letters printed in boldface in source; passages highlighted by use of double-spaced words enclosed in slant-lines]

[Text] In numerous exercises, maneuvers and other militarist preparations conducted in the principal NATO countries, in recent years more attention has been devoted to working on problems of camouflage, concealment and deception. Forign experts believe that by their skillful and combined employment one can achieve secrecy in preparing for operations, the element of suprise in military actions, and a high degree of effectiveness of employment of combat equipment. It is emphasized in the foreign press that the role and significance of camouflage, concealment and deception have particularly increased with the adoption of new weapons possessing enormous destructive force. Implementation of these measures, however, has been greatly complicated in connection with increased capabilities of aerospace and ground technical reconnaissance means. For example, it is becoming increasingly more difficult to conceal large troop redeployments and the location of military installations. Satellites can detect small objects and even the marks left by tracked vehicles off roads, while the employment of combined airborne and ground surveillance devices makes it possible to monitor the adversary's actions continuously, around the clock, regardless of weather.

Proceeding from this, NATO command authorities are assigning staffs and troops special requirements -- to find and test at exercises new means and methods of camouflage, concealment and deception, which would be more effective and which would ensure concealment of measures in progress.

As is noted in the foreign press, camouflage, concealment and deception should be performed at all levels of command and by all branches of service. In the armies of the principal NATO countries such activities are conditionally subdivided into strategic, operational and tactical.

STRATEGIC CAMOUFLAGE, CONCEALMENT AND DECEPTION [strategicheskaya maskirovka] encompasses an aggregate of measures conducted by NATO military-political leaders to conceal preparations for war against the nations of the socialist community. They include first and foremost dissemination of false information, lies and slander, propagated by all information media for the purpose of deceiving the peoples of their own countries regarding the peace-seeking policies of the Soviet Union, which are aimed at détente, peace, and disarmament. Under the pretext of a mythical "Soviet military threat," Western militarist circles are attempting to force peoples to accept additional sacrifices connected with the arms race and the inflation of military budgets, to convince them, for example, of the need to deploy U.S. intermediate-range missiles and neutron weapons in the European countries.

The development and adoption of new strategic arms programs and the execution of large-scale military-political measures are usually preceded by a sensational hue and cry in the press, over radio and television about the allegedly existing superiority of the armed forces of the Warsaw Pact nations over NATO forces, etc. As a conclusion they advance the thesis of the need to "improve the defense" of the bloc members, of "additional arming," and of taking a number of measures in this connection to strengthen their armed forces.

The strategic category also includes camouflage, concealment and deception plans and measures which are drawn up by the theater commands. It is believed that it is essential thereby to coordinate the actions of all branches of service and to achieve cooperation and coordination with the national commands of the bloc members.

With the aid of strategic camouflage, concealment and deception, the theater commands seek to conceal equipping of the European theaters, establishment of strategic stockpiles of arms, fuel, ammunition, food supplies and raw materials, as well as training and preparation of troops for deployment in areas along the borders of the nations of the socialist community, and execution of a number of mobilization measures connected with strengthening the force grouping focused against the Warsaw Pact countries.

OPERATIONAL CAMOUFLAGE, CONCEALMENT AND DECEPTION [operativnaya maskirovka], in the view of NATO command authorities, are one of the most important means of ensuring the element of operational suprise, since it is aimed at disorienting the adversary regarding the nature of forthcoming combat operations, the general operation plan, the scale and time of execution. Its principal objective is to conceal the friendly battle group from hostile reconnaissance and to deceive the adversary by means of a number of feints and diversionary actions, to force the adversary to expend his nuclear potential and airpower resources on decoy targets and installations, thus preserving friendly forces intact for a decisive attack on the selected axis.

In view of the adversary's increased intelligence-gathering capabilities to detect redeployment of forces and preparations for offensive action, NATO military experts persistently recommend, alongside reducing signs revealing the presence of troops and combat equipment, the most extensive possible employment of decoy, feinting and diversionary actions: movement of columns, concentration

of men and equipment, increased communications activity at phony installations, etc. All this, in combination with secrecy of troop command and control, should convince the adversary that the activities are genuine.

The recommended modes of operational camouflage, concealment and deception find extensive practical application at exercises and maneuvers of local and NATO joint forces. To reduce the effectiveness of hostile intelligence gathering activities, main emphasis is placed on conduct of an aggregate of diversionary and phony actions.

The scenario of almost all NATO Joint Forces exercises is based on a sneak attack and offensive operations against the nations of the socialist community, although as a rule they are camouflaged as defensive actions. The offensive plans are eloquently indicated by the fact that troops work on perfecting employment of the latest types of various weapons, deployment of battle groups possessing six-fold superiority over the "aggressor," the scale of combat operations and number of participating troops. In order to conceal the scale of operational troop training activities, NATO leaders frequently pass off exercises held within the framework of the entire bloc as a series of national exercises separate in place and time. Although it is a known fact that they are linked by a common scenario and are conducted on a unified operational background under the direction of NATO Joint Forces command authorities and aim at integration of the efforts of NATO forces as a whole (such as "Autumn Forge").

In the conduct of operational and combat training, NATO command authorities conceal not only the character, scenario, and scale of activities, but also deliberately understate the capabilities of military forces. At the annual "Reforger" exercises, for example, redeployment of troops from the United States to Europe is stretched out in time to several weeks, although in actual fact, as foreign military experts estimate, the United States is capable of moving "dual-basing" combined units and units much faster. Such a picture was also observed in such exercises as the British "Jog Trot" (1980), the "Anorac Express 80" NATO mobile forces exercise (North Norway), and others.

Diversionary maneuvers have been widely employed during NATO exercises for purposes of deception. For example, the landing of actual assault forces in selected sectors would as a rule be preceded by a diversionary landing in other areas. As was indicated by the experience of the "Teamwork 80" exercise, U.S. command authorities were working, in parallel with operational problems, on the problem of development of Central Norway, in order to establish in this important area weapons and combat equipment storage facilities for a U.S. Marine brigade to be deployed to this area in a period of crisis.

In order to deceive the public, in NATO exercises for the most part the "enemy" would be the first to attack and thus would obtain temporary advantage at the outset of combat operations. According to the majority of such "peace-seeking" war scenarios, NATO forces would withdraw, regroup, mount retaliatory attacks, and then would finish off the "aggressor" on his own territory. Everybody knows full well, however, that in actual fact militarist circles are the ones who are guilty of unleashing military conflicts. As was indicated by the experience of

the abortive U.S. Iran invasion attempt code-named "Blue Light" (1980), preparations for such operations are as a rule carried out under the guise of various exercises. On this occasion a U.S. Air Force exercise was held just prior to the incursion, with considerable naval forces assembled.

Foreign military theorists believe that exercises may also serve as a cover for initiating a "major war" in Europe.

Prior to the "Autumn Forge 80" maneuvers, in order to conceal the deployment of battle groups on axes of operations by means of the Western mass media, as usual, there was deliberately staged a hue and cry about increased "aggressiveness on the part of the Warsaw Pact countries" and an increase in the "Soviet military threat." Long before this, NATO forces were placed on alert, intensive redeployment of units and combined units to their areas of operations in the vicinity of the borders with the GDR and Czechoslovakia were carried out, and with the commencement of combat operations, at the very first stage, following the scenario of the NATO command authorities, they "crushed" forward-deployed "aggressor" troops and carried combat onto his territory. This is how the "defense" of the NATO forces looked in the maneuvers.

Qualitatively new intelligence gathering capabilities, making it possible to detect redeployment of troops in any and all conditions of visibility, in the opinion of NATO leaders, impose increased demands on operational camouflage, concealment and deception. Of decisive significance for ensuring secrecy of troop concentration and the element of offensive surprise in these conditions will be the creation of phony troop disposition areas, command and control facilities, simulation of radio traffic, communications security, dissemination of false information and diverionary actions which deceive the adversary.

TACTICAL CAMOUFLAGE, CONCEALMENT AND DECEPTION [takticheskaya maskirovka], in the view of foreign military experts, constitute an aggregate of measures carried out in combined units, units, and subunits, as well as at individual installations, for the purpose of concealing from the enemy preparations for combat operations or the existence (disposition) of installations. The principal means of accomplishment include concealment of small subunits, weapons (Figure 1) [not reproduced], combat equipment and individual installations, simulation, dissemination of false information, and display of phony actions (installations). All this is combined with strict observance of camouflage discipline.

Official U.S. Army field manuals particularly stress the necessity of conduct of measures to deceive the enemy, both in the attack and in defense. They strongly recommend that commanders at all echelons work personally on organizing camouflage and concealment and extensively utilize deceptive actions. Every battle (engagement) should be conducted with employment of cover, camouflage and concealment, with diversionary actions and feints employed, with the participation of large forces (up to a brigade).

It is emphasized in the foreign military press, for example, that phony assaults should be extensively employed in the offense, as well as other decoy or deceptive actions, by openly displaying troops and combat equipment, and

especially in areas in which no aggressive combat actions are planned. The purpose of all this is to give the enemy the impression of commencement of combat actions and to force him to reveal his fire plan.

One of the principal missions of covering units and subunits of a U.S. army corps in the defense is to deceive the enemy regarding the actual location of the main line of resistance, in order to force him to deploy his forces prematurely and to attack dummy targets.

Tactical camouflage, concealment and deception, according to the views of NATO command authorities, will meet today's requirements only when commanders at all echelons are capable of conducting them expeditiously and continuously, that is, they should commence at the moment a position is taken in the combat formation and continue during the entire period of combat actions. In the conduct of camouflage, concealment and deception measures it is essential to seek to diversify them and make them convincing, in order that the camouflaged and concealed installations do not differ from local features and that there is no uniformity and lack of imagination in their selection.

It is believed that large-scale equipping of troops with night vision devices and night sights compels troops to employ at night the same camouflage and concealment measures as during daylight hours. It is extremely difficult for personnel to shake the false notion of the protection of darkness. In the opinion of NATO command authorities, all this imposes increased demands on troops to learn night camouflage and concealment techniques.

In order to make it difficult for enemy reconnaissance to detect personnel and combat equipment, the armies of the NATO nations are equipped with various means of camouflage and concealment: individual (camouflage clothing and face paint) and collective (camouflage nets, paints, mock-ups, simulators, smokes, etc). Following are the principal demands imposed on them: protection against hostile visual observation and technical reconnaissance means in all bands of the electromagnetic spectrum, as well as compactness and simplicity of utilization.*

In the armed forces of the NATO member nations, considerable importance is attached to strict observance of discipline in matters of camouflage and concealment: unnecessary noise shall not be generated during movement; open areas, even at night, shall be crossed in a crouched position or with a belly crawl; there shall be no massing of personnel and weapons; when possible, combat equipment and transport vehicles shall be positioned on reverse hillslopes, in ravines and hollows; tracks left by tracked and wheeled vehicles shall be removed; radio traffic shall be limited, especially when preparing for an offensive operation, etc. At the same time, in order to deceive the enemy it is recommended that noise be generated at decoy locations with the aid of specially assigned equipment or radio amplifiers. Phony radio nets can be established

* For more detail on means of camouflage and concealment, see ZARUBEZHNOYE VOYENNOYE OBOZRENIYE, No 6, 1980, pp 39-42 -- Ed.

to simulate intensive activities by headquarters, command and control facilities, and other measures can be carried out to deceive the enemy.

It is also recommended that dummy structures and mock-ups be employed as extensively as possible in order to divert attention and deceive the enemy regarding the true nature of actions. For this purpose, various inflatable or bolt-together mock-ups of tanks, aircraft, artillery pieces, armored personnel carriers, trucks, tractors, etc have been developed to simulate weapons and combat equipment and are being supplied to line units, and special manuals on fashioning them of materials at hand have been issued.

Other countries subdivide camouflage, concealment and deception into optical, thermal, sound, radar, sonar, and radio, depending on the intelligence gathering means against which camouflage, concealment and deception measures are being conducted. All provide for the execution of an aggregate of countermeasures which, in the estimate of foreign military experts, make it possible to achieve maximum effect and to reduce the giveaway signs of military installations to a certain degree.

For /optical camouflage, concealment and deception/, for example, it is recommended primarily to employ specific properties of the terrain (Figure 2) [not reproduced], adverse weather conditions, individual and collective means, camouflage painting, smokes and aerosols. It is reported that camouflage painting reduces by approximately 30 percent the probability of target detection. The U.S. military has developed a set of alkyd enamel paints in 11 colors, which make visual detection more difficult and which possess fairly high reflectivity across the electromagnetic spectrum. Also noted is the large-scale equipping of units and subunits with smoke devices, thermal and smoke equipment, which will be used to blind the enemy, to conceal the actions of friendly troops and the location of military installations, as well as to attract the enemy's attention toward dummy installations.

In recent years, especially with the development of infrared surveillance equipment and other means of observation capable of detecting high-contrast (thermally) objects, /thermal camouflage and concealment/ have assumed great importance. They include first and foremost utilization of the thermal protection properties of the terrain and various devices which lower the temperature of heated surfaces. These include heat insulating and absorbing materials and paint coatings, as well as cooling systems. The military forces of the NATO countries are equipped with high-output dummy heat generators to deceive the adversary.

/Sound masking and deception/ is directed primarily against hostile acoustic reconnaissance and is accomplished by reducing the noise level of operating vehicles and equipment or by drowning out sounds and noises by more powerful sound sources. To simulate the movement of troops and equipment, as well as the conduct of engineer activities, U.S. experts recommend the employment of high-powered loudspeaker systems with recordings of the sound of operating engines, clanking of tracks, the sounds generated by trench-digging tools, etc. All this, in their opinion, creates the impression of troop redeployment or the conduct of defensive fortification, and will provoke a response reaction from the adversary.

In connection with the fact that the military forces of the NATO countries are equipped with substantial quantities of radar surveillance and reconnaissance gear, particular importance is attached to /radar camouflage, concealment and deception/, which is achieved for the most part with the aid of various reflectors, radar signal scattering and absorbing coatings. It is also recommended that friendly radars be sited if possible out of fields of vision, and when sited on open terrain that radar masks, deflectors, etc be set up. Considerable attention is devoted to strict operating regimen and restricted radar operation. Dummy radar targets would be generated by scattering corner reflectors and chaff, in order to deceive the enemy.

/Radio camouflage, concealment and deception/ are achieved primarily by strictly limiting (prohibiting) the operation of radio and radioelectronic equipment and by eliminating revealing signs by reducing radiated power and by employing high-speed equipment and decoy transmitters.

/Hydroacoustic camouflage, concealment and deception/ measures specify the use of sound insulating and absorbing devices on submarines, reduction of screw noise, as well as extensive employment of released decoy noise simulators.

In view of the importance of camouflage, concealment and deception as a category of combat support of troops, the foreign press particularly stresses the necessity of further improving the forms and methods of camouflage, concealment and deception. It is therefore not surprising that these items are included in troop combat and operational training programs and are regularly worked on at exercises and maneuvers.

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PERCEPTIONS, VIEWS, COMMENTS

COMMENTS ON PSYCHOLOGICAL OPERATIONS OF U.S. ARMED FORCES

Moscow ZARUBEZHNOYE VOYENNOYE OBOZRENIYE in Russian No 2, Feb 82 (signed to press 10 Feb 82) pp 16-19

[Article, published under the heading "General Military Problems," by Maj Gen (Res) N. Somov and Lt Col V. Tarakanov: "Planning and Conduct of Psychological Operations by the U.S. Armed Forces"; passages rendered in all capital letters printed in boldface in source; passages highlighted by use of double-spaced words enclosed in slantlines]

[Text] At the present time, it is noted in the Central Committee Accountability Report to the 26th CPSU Congress, the ideological struggle has become considerably more acute, a struggle which "for the West does not boil down to a contest of ideas. It is employing an entire system of means calculated to undermine and crumble the socialist world."

The aggressive tendencies which are characteristic of the policies of the imperialist nations on the ideological front find expression in measures by U.S. military command authorities to improve the entire system of psychological operations agencies.* The regulations and field manuals which regulate their activities are based on the techniques and methods of planning and conducting "psychological warfare" which are employed by the United States against the socialist countries and the national liberation movement.

In the opinion of U.S. experts, achievement of the objectives of any psychological operation is determined in large measure by thorough planning, which should be long-range, centralized, and flexible. This means organization of continuous psychological influence on the civilian population and military personnel of the opposing side, consisting of continuous individual operations conducted under the oversight of top-echelon military-political agencies, taking concrete conditions into account.

Psychological operations planning in the U.S. armed forces constitutes a broad aggregate of measures, which includes two stages:

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* For more detail on organization of U.S. psychological operations units and subunits and their operating methods, see ZARUBEZHNOYE VOYENNOYE OBOZRENIYE, No 8, 1981, pp 11-15 -- Ed.

study of foreign countries and determination of potential targets of psychological influence on their territories (so-called basic studies);

formulation of a plan of conduct of a concrete psychological operation.

/The first stage/, according to U.S. manuals, begins with the collection and analysis of information materials, which include the following:

publications available to the general public (books, newspapers, magazines, etc);

official documents of foreign countries and the U.S. Government (legislative enactments, edicts, notes, etc);

wire service, radio and television reports;

information from the CIA, FBI, and political sections of embassies (reports, abstracts, intercepted communications, private letters and diaries, photographs, maps, etc);

interrogation of prisoners, defectors, surveys of the civilian population on occupied territory.

Information is processed according to a uniform method, encoded, entered into an automated information management system specially designed to support psychological operations, and serves as a basis for subsequent analysis.

Basic studies, both in peacetime and in time of war, are conducted on a standardized scheme and are aimed at obtaining a thorough, comprehensive description of the target country, with the aim of determining the most vulnerable points in its politics, economy, and ideology. Reflected in these studies is the country's history of development, its place and role in international relations. The government and opposition groups are characterized, the attitude of various segments of society toward its external and domestic policy is revealed, and special emphasis is placed on questions evoking discontent in a country. The socioeconomic structure of society, the educational level of the population, customs and ways are examined in detail. Social development programs are evaluated. Religious groups within the population are described in detail.

When analyzing the economy, in addition to determining principal indicators, information is pinpointed on the attitude of the people toward government economic policy, its weak and strong points.

Examination of the military organization of the state, the principles of armed forces organizational development and manpower acquisition, an evaluation of the morale-political state of personnel, and data on foreign military aid are contained in a separate section of basic studies.

Considerable attention is focused on an analysis of the cultural level of the population, data on the mass media and the degree of their influence on various segments of society, as well as possibilities of utilizing them in the interests of the United States.

The first stage in planning an operation ends with a listing of the most vulnerable targets of psychological influence, which may include social classes, the armed forces, political parties and factions, public organizations, religious communities, etc. A working form is set up for each of these, on which the following items are reflected in a concise manner: U.S. national interests and the tasks being accomplished in the operation; the moral-political stability of the target; planned operation effectiveness evaluation probability indices.

The /second stage/ of planning psychological operations, as is indicated in U.S. armed forces manuals, is aimed at direct planning of a concrete operation to accomplish a specific task which is limited in time and place. It includes situation assessment and elaboration of an annex to the operational plan (operation order) of conduct of the psychological operation.

The situation estimate stipulates study of the enemy's forces, refinement of the missions of friendly forces, determination of the capabilities of psychological operations units and subunits, analysis of technical propaganda means, consideration of time of execution and prediction of anticipated difficulties and ways of eliminating them.

The following items are discussed in the annex to the operational plan:

description of enemy troop personnel, their morale-political state, favorable and unfavorable ideological factors which can affect the course of the operation;

general task of psychological operations agencies, calculation of manpower and resources allocated for their conduct, and times to report achieved results to higher command authorities;

determination of the specific assignment to each psychological operations subunit in the interests of accomplishment of the combat mission assigned in the operational plan to theater forces;

principal targets of psychological influence selected among the troops and civilian population of the opposing side, and particularly those which are to be attacked by U.S. and allied forces;

U.S. policy objectives in regard to the nations involved in the military conflict, and the psychological influence tasks to be fully or partially accomplished in support of operations by U.S. forces;

factors to which special importance must be attached in conducting operations, tactics of psychological operations units and subunits;

organization of coordination among the above-indicated units and subunits, their sequence of actions and procedure of logistic support.

Consideration of the specific features of conduct of psychological operations is considered an important factor in achieving planned results. U.S. experts

distinguish the following categories: support of troop combat operations; support of consolidation of U.S. forces on captured territory; support of U.S. ally governments in putting down antigovernment actions; support of U.S. special forces behind enemy lines; brainwashing of prisoners of war and interned civilians.

OPERATIONS IN SUPPORT OF THEATER FORCES COMBAT OPERATIONS are directed, according to U.S. manuals, at crushing the enemy's morale and diminishing his fighting efficiency. In constant contact with theater command authorities and intelligence agencies, psychological operations experts must continuously analyze the situation and conduct a systematic search for new psychological influence targets. It is believed thereby that, independent of the type of combat operation and the success of its execution by combat forces, the character of psychological influence should be aggressive, and the initiative of ideological pressure on the enemy should be retained in the hands of U.S. military psychologists.

Specific features in organization of psychological operations are characteristic of every type of combat operation. For example, for undermining the morale and fighting efficiency of enemy troops in the defense or in encirclement, procedures specify intensive dissemination of defeatist attitudes with appeals to surrender. The attention of enemy soldiers would be attracted by demagogic promises of decent treatment of war prisoners, medical assistance to the wounded, etc.

During conduct of defense, it is recommended that principal efforts be focused on undermining the aggressive enthusiasm of the enemy troops and on diminishing their morale, particularly in regard to those units and subunits which have penetrated the combat formations of U.S. or allied troops. During withdrawal, maneuver or relief of friendly troops, psychological operations units and subunits take part in camouflage and concealment and remain in position until the withdrawal or maneuver is fully completed. During this period they operate with normal intensity, in order not to arouse any suspicions on the part of the opposing side.

OPERATIONS DURING CONSOLIDATION BY U.S. TROOPS ON CAPTURED TERRITORY are planned as an aggregate of measures to brainwash the population of the occupied country, in order to incline the civilian population toward active cooperation with the U.S. military occupation administration and to ensure normal activities of rear services units and subunits in the theater communications zone. During the period of organization for and conduct of operations of this type, U.S. global political interests in that country not only during the period of military operations but in the postwar period as well will be considered.

U.S. Army manuals specify that psychological operations agency experts shall become acquainted in advance with the adversary's mass media (motion picture theaters, radio, television, printing plants, theaters, etc) and arrange for their repair and return to service immediately following occupation of individual segments of enemy territory. Indigenous personnel (famous artists, writers, actors, radio and TV directors) would be aggressively recruited to form views in the local civilian population which are to the liking of the U.S. military.

Operations to undermine the moral of enemy armed forces personnel and civilians would be conducted in close coordination with emigré puppet governments which the United States intends to establish, and the military units and organizations supporting them.

In those instances where areas which are occupied by U.S. forces constitute the territory of a country allied to the United States, it is recommended that psychological operations agencies not limit themselves to the conduct of measures dictated by the military situation but covertly direct that country's information dissemination agencies.

If the occupied area belongs to the enemy, the activities of all mass media are focused on propagation of the Western way of life. Propaganda work would be combined with harsh repressive measures against the local civilian population.

Psychological operations units and subunits would participate in communicating to the local population orders and instructions from the occupation authorities and in conducting propaganda aimed at absolute observance of the order established by the military administration, would oversee the movement of refugees and displaced persons, would recruit the local population to work for U.S. rear services establishments and for performing various repair activities, would communicate international information to the local population in a favorable light, and would conduct the collecting of information on the attitudes of citizens and the activities of patriotic groups fighting the occupation regime.

OPERATIONS IN SUPPORT OF THE GOVERNMENT OF A COUNTRY ALLIED TO THE UNITED STATES IN PUTTING DOWN ANTIGOVERNMENT ACTIONS would be aimed at assisting it in brainwashing the population, in demoralizing insurgent detachments so that they will give up the armed struggle, in justifying before the local population the actions of persons supporting pro-American leaders, and in efforts to gain a positive attiude by the people toward U.S. policy. Such operations are to be conducted only if a country is occupied by U.S. forces, while if there are no U.S. troops on a country's territory, psychological influence missions, in the opinion of U.S. ideologists, should be assigned to the U.S. embassy and the International Communication Agency. Psychological operations agencies would be employed only to assist national command authorities in devising a program of psychological influence on insurgent detachments and the indigenous population, to place technical and other propaganda means at their disposal, and to train appropriate personnel.

Materials prepared to be used on insurgents would place main emphasis on intimidating them, strongly stressing the difficulties they are experiencing. Influencing the population, psychology experts would seek to gain its loyalty toward the policy being conducted by the government. It is planned to devote special attention to the personnel of government agencies, since it is believed that active support of national leadership by these personnel promotes stabilization of the domestic political situation and elimination of the insurgent movement.

OPERATIONS TO SUPPORT THE ACTIONS OF U.S. SPECIAL FORCES BEHIND ENEMY LINES, as manuals stress, require a high degree of professional skill and thorough knowledge of local conditions. The principal mission during the conduct of operations of this kind is to boost the morale of rebel detachments and to draw part of the indigenous population over to their side. It is believed that even the very presence of U.S. troops within a country exerts positive psychological effect on insurgents and the local population.

Supervision of psychological operations of this kind would be assigned to the U.S. embassy in the given country and the commander in chief of U.S. forces. Here one can clearly trace the aggressiveness of Washington's policy, carried out in close coordination between the State Department and military leaders. The political aspects of psychological operations would be coordinated with rebel leaders or with a government in exile and would be communicated to executing personnel in the form of joint directives. Psychological operations agencies would handle the execution of measures to publicize the "successes" of insurgent forces, medical and other "assistance" by U.S. forces to the indigenous population, and offering refuge to persons sought by the given country's law enforcement agencies for supporting the rebels. Appeals would also be issued to the local population to ignore legal enactments and restrictions coming from the legal government.

It is planned to direct OPERATIONS ON WAR PRISONERS AND INTERNED CIVILIANS primarily at ensuring that they fully obey camp regulations and at ensuring loyalty. In addition, it is considered essential to prevent the conduct of hostile propaganda among these persons. The psychological campaign would be constructed in such a manner as to demonstrate the "attractiveness" of the Western way of life and to impose on war prisoners and interned civilians views favorable to U.S. military-political circles.

According to U.S. manuals, these are the principal views of U.S. command authorities on employment of psychological operations units and subunits to influence the consciousness, feelings and convictions of armed forces personnel and the civilian population of the socialist countries and developing nations.

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COMMENTS ON NATO GROUND FORCES ORGANIZATION IN CENTRAL EUROPE

Moscow ZARUBEZHNOYE VOYENNOYE OBOZRENIYE in Russian No 2, Feb 82 (signed to press 10 Feb 82) pp 27-33

[Article, published under the heading "Ground Forces," by Col A. Mikhaylov: "NATO Ground Forces in the Central European Theater of Military Operations"; passages rendered in all capital letters printed in boldface in source; passages highlighted by use of double-spaced words enclosed in slantlines]

[Text] The international situation has become significantly aggravated in recent years through the fault of the U.S. Administration and the military-political leaders of the aggressive NATO bloc. The principal imperialist nations which are members of the NATO alliance have sharply escalated the arms race, are increasing direct military expenditures every year, are developing and adding to their arsenals new and more sophisticated weapons and combat equipment. The governments of a number of Western European countries, under pressure by U.S. militarist circles, have consented to the deployment of U.S. intermediate-range missiles on their soil. NATO military and political leaders have adopted a policy of aggressive, comprehensive preparations for war against the Soviet Union and the other nations of the socialist community.

Pursuing a policy of military preparations, NATO command authorities have deployed in peacetime and are maintaining at a high level of combat readiness large contingents of military forces in the European theater, which greatly exceeds the bloc's so-called "defense requirements," about which the Western propaganda machine has been making such a noisy propaganda campaign. Judging from reports in the foreign press, in the European theaters of military operations more than 3 million men, more than 70 ground forces divisions and approximately 50 independent brigades, and up to 4000 combat aircraft are in a continuous state of readiness to attack the Warsaw Pact nations. These forces are armed with more than 3000 units of nuclear weapon delivery vehicles, more than 15,000 tanks, and more than 18,000 artillery pieces and mortars. Sited on the territories of many countries in Western Europe are a vast number of supply depots intended for the combat and rear services support of military operations. Stockpiled at such facilities are more than 7000 tactical nuclear warheads of various yield, which NATO command authorities would use in attacks on force groupings, command and control facilities, rear services installations, etc.

The most powerful NATO force grouping is concentrated in the main theater of military operations according to the view of the bloc's military-political leaders -- the Central European -- which includes the territory of the FRG (excluding Schleswig-Holstein), Belgium, the Netherlands, and Luxembourg. It also includes the territory of France, which withdrew from the NATO military organization in 1966.

The strategic importance of the Central European Theater of Military Operations (CE TMO) is determined by the fact that it occupies a central position in the European Theater of War and is a most important linking element between the Northern European and Southern European TMO. In addition to an advantageous geographic position, it possesses a highly developed economic and power base, considerable manpower and material resources, a dense network of lines of communication, including highways and rail lines, pipelines, navigable waterways, and a large number of airfields. In addition, this theater contains topography favorable for the conduct of military operations. All this, in the opinion of Western military experts, should favor the conduct of large-scale offensive operations in Central Europe, with employment of all branches of service and combat arms, to attain global military-political objectives. If one considers that approximately 80 percent of U.S. tactical nuclear warheads and an equal percentage of units of means of delivering them are deployed in this TMO, it becomes clear what role is assigned to the NATO Joint Forces (JF) command in this theater in carrying out the aggressive schemes of imperialism. Also concentrated here is the most combat r e a d y ground forces grouping, the nucleus of which consists of West German combined units and units. And this is not surprising, since NATO strategists, viewing the territory of the FRG and the other countries within the CE TMO as the bloc's outpost on the borders of the Warsaw Pact nations, have virtually transformed it into the principal bridgehead for preparing for and initiating an aggressive war against the nations of the socialist community.

It is reported in the foreign military press that NATO joint forces in the CE TMO consist of ground and air forces. Ground forces organizationally comprise two large force groupings: the Northern and Central army groups (Figure 1) [not included].

THE NORTHERN ARMY GROUP (NAG) consist of four army corps (West German, British, Belgian, and Dutch). In peacetime they total 13 divisions (7 tank). The numerical strength of the NAG totals 220,000 men. They are armed with approximately 500 units of nuclear warhead delivery means, 3500 tanks and 2000 artillery pieces and mortars. As is emphasized by foreign experts, the West German divisions comprise the principal striking force, as they exceed in personnel, armored equipment, artillery and antitank weapons the combined units of the armies of the other countries assigned to the NAG.

The area of "responsibility" of the NAG extends on the north from the Elbe River southward to a line delineating it from the Central Army Group (this line runs from Goettingen to the junction of the boundaries of the FRG, Luxembourg, and Belgium).

The forces of this army group are headed by a commanding officer (always a British general) who exercises his command through a headquarters (Figure 2)

[not included], located in Moenchen-Gladbach (FRG). A West German general is usually appointed chief of staff. The positions of deputy chiefs of staff and chiefs of directorates are assigned to representatives of the armed forces of Great Britain, the FRG, the Netherlands, and Belgium, that is, those countries whose troops serve in the NAG. Headquarters staff personnel totals more than 225, including more than 100 officers and general officers.

/West German troops/ assigned by the Bundeswehr command authorities to the Northern Army Group include the 1st Army Corps (headquarters in Muenster), with a peacetime strength of approximately 106,000 and a wartime strength of 170,000 men. They include the 1st, 3rd, and 7th panzer divisions (headquartered in Hannover, Buxtehude and Unna respectively), the 11th Motorized Infantry. Division (Oldenburg), as well as the 150th Lance Missile Battalion (6 launchers), an antiaircraft missile regiment (36 Roland-2 antiaircraft missile systems), an antitank helicopter regiment (56 units), and other corps subordination combat and rear services support units. The 1st Army Corps has a total of six Lance missile launchers, approximately 1300 Leopard tanks, more than 700 Marder infantry fighting vehicles, approximately 3500 armored personnel carriers, 600 artillery pieces and mortars, and more than 1000 antitank weapons, including approximately 800 antitank missile launchers.[1] According to reports in the foreign press, the panzer divisions have begun taking delivery on new Leopard 2 tanks.

/British forces/ include the British Army of the Rhine (headquartered in Reindahlen, FRG), totaling more than 55,000 men. In the estimate of Western experts, it is the largest British ground force grouping. Its commander is at the same time commander of the NAG.

The British Army of the Rhine includes a headquarters and the 1st Army Corps (headquartered in Bielefeld, FRG), which is considered to be the most combat-ready British ground forces combined unit, armed with offensive nuclear weapons and other modern weapons and combat equipment. It includes the 1st, 2nd, 3rd, and 4th armored divisions (Verden, Luebbecke, Soest, and Herford respectively), the 5th Field Group (Osnabrueck), the 1st Artillery Division (Bielefeld), an independent army aviation regiment, 2 signal regiments, an amphibious engineer regiment, combat and rear services support units and subunits. The corps combined units and units are armed with approximately 600 Chieftain tanks, more than 150 Scorpion reconnaissance tanks, 12 Lance missile launchers, 72 Rapier antiaircraft missile launchers, 24 175 mm self-propelled guns, 16 203.2 mm and 48 155 mm self-propelled howitzers, more than 100 105 mm Abbot self-propelled guns, 132 Striker self-propelled launchers with Swingfire antitank missiles, 200 Milan antitank missile launchers, 96 Blowpipe antiaircraft missile systems, 150 army aviation helicopters, plus other weapons and combat equipment.

According to information in the foreign press, British command authorities plan to execute a broad aggregate of measures to achieve further improvement in the structure of the army corps with the aim of increasing the firepower and striking power of its combined units and units.

/Dutch forces/ include the 1st Army Corps (headquartered at Apeldoorn, Netherlands), which contains the 1st (Schaarsbergen), 4th (Harderwijk), and 5th (Apeldoorn) motorized infantry divisions, the 101st Independent Infantry Brigade,

an independent Lance missile battalion, 2 independent artillery battalions, as well as combat and rear services support units and subunits. All corps combined units and units, except for the 41st Tank Brigade (Seedorf, FRG), are stationed in the Netherlands.

It is noted in the foreign press that in peacetime corps strength is approximately 35,000 men (with an authorized strength of approximately 90,000), since the component combined units and units are not at full strength. The 1st and 4th motorized infantry divisions, for example, are at approximately 70 percent strength, while the 5th is at cadre strength, like corps-subordination units and subunits. The corps is armed with 470 Leopard 1 tanks, 340 Centurion tanks, 130 AMX-13 tanks, 2700 armored personnel carriers, 6 Lance missile launchers, 28 203.2 mm, 140 155 mm, and 44 105 mm vehicle-drawn howitzers, 82 AMX 105 mm self-propelled howitzers, 136 M109 155 mm self-propelled howitzers, 26 177 mm self-propelled field guns, 13 M110 203.2 mm self-propelled howitzers, 95 Gepard self-propelled antiaircraft artillery mounts, 72 army helicopters, plus other arms.

/Belgian forces/ include combat troops of the 1st Army Corps (headquartered at Weiden, FRG) comprising the 1st and 16th motorized infantry divisions (headquartered respectively at Verviers, Belgium, and Neheim-Huesten, FRG). In peacetime it contains 4 brigades (1 armored and 3 mechanized), 3 field artillery battalions and 2 Hawk antiaircraft missile battalions, independent army corps combat and rear services support units and subunits. The bulk of these troops are stationed in the FRG. They are armed with 4 Lance missile launchers, approximately 400 Leopard 1 and M47 tanks, 130 Scorpion light tanks, 150 Scimitar infantry fighting vehicles, 1140 armored personnel carriers, 210 field pieces, 300 antitank weapons, including 220 antitank missile launchers, 55 Gepard self-propelled antiaircraft artillery mounts, 60 Hawk antiaircraft missile launchers, plus other weapons and combat equipment.

As was reported in the foreign military press, NATO command authorities plan, if an emergency situation develops, to reinforce the Northern Army Group with addition of U.S. troops (the 3rd Brigade of the 2nd Armored Division, stationed in the United States, is assigned to the Bremerhaven area of the NAG zone), by beefing existing combined units and units up to authorized strength, by forming new contingents on the territory of the FRG, the Netherlands and Belgium, as well as redeployment of troops from Great Britain and the United States. In the opinion of foreign experts, the total strength of the NAG will be more than doubled, exceeding 500,000 men. In addition, various combined units, units and subunits of FRG territorial troops stationed in the NAG area of "responsibility," including a central-subordination signal brigade, territorial command "North" (Moenchen-Gladbach), border guard command "North" (Hannover), "Coast" (Bad-Branstaedt), and "West" (Bonn) would be used for training reservists in order to increase regular forces to authorized strength and to deploy new units on a decision to employ military force and carry out mobilization.

The CENTRAL ARMY GROUP (CAG) contains U.S., West German, and Canadian troops.

The CAG area of "responsibility" includes West German territory south of a line running from Goettingen to the junction of the FRG, Luxembourg, and Belgian borders. Command and control of the army group's forces are exercised by the

commander (a U.S. general) through a headquarters located in Heidelberg (FRG). The chief of staff is a West German general, under whom are the deputy chief of staff, 8 directorates (operations and combat training, intelligence, communications and electronics, engineer, personnel and administration, rear services, adjutant general, budget-finance), and commandant's office. Usually U.S. and West German officers are appointed to the headquarters directorate chief positions.

The fighting strength of the Central Army Group includes 11 divisions (five of which are tank divisions) and four independent brigades, including: 4 divisions and 3 brigades (U.S.), 7 West German divisions, and a Canadian brigade. The nucleus of the CAG combat power is comprised of 2 U.S. armored and 2 mechanized divisions, as well as 3 FRG panzer divisions. CAG numerical strength exceeds 350,000 men. Judging from reports in the Western press, arms include approximately 800 units of nuclear warhead delivery means, approximately 5500 tanks, and 3000 artillery pieces and mortars.

/U.S. forces/ in the Central Army Group include the 5th and 7th army corps, the 56th Pershing Missile Brigade, the 32nd U.S. Army Air Defense Command in the European zone, and other combat and rear services support units.

The 5th Army Corps (headquartered at Frankfurt/Main) contains the 8th Mechanized and 3rd Armored Divisions (Bad Kreuznach and Frankfurt/Main respectively), an independent brigade of the 4th Mechanized Division (Wiesbaden), the 11th Independent Armored Cavalry Regiment (Fulda), 3 Lance missile battalions (18 launchers), 3 203.2 mm self-propelled howitzers, 2 175 mm self-propelled field guns, an army aviation group (more than 100 helicopters, including 42 helicopters armed with antitank missiles), plus combat and rear services support units and subunits.

The 7th Army Corps (headquartered in Stuttgart) contains the 3rd Mechanized and 1st Armored divisions (Wuerzburg and Ansbach respectively), an independent brigade of the 1st Mechanized Division (Weblingen), the 2nd Independent Armored Cavalry Regiment (Nuremberg), 3 Lance missile battalions, 6 203.2 mm and 1 155 mm self-propelled howitzers, 2 175 mm self-propelled field guns, an army aviation group, as well as other units and subunits.

The 56th Pershing Missile Brigade (headquartered at Schwaebisch-Gmuend) consists of 3 battalions (36 Pershing missile launchers each) plus an infantry battalion. The brigade is armed with Pershing 1A missiles with a range of up to 740 km. According to plans of building up the nuclear combat power of U.S. ground forces in Europe, replacement of existing missile systems with the new Pershing II, with a range of approximately 1800 kilometers,[2] is to commence in 1983.

The U.S. Army 32nd Air Defense Command in the European zone (headquarters at Darmstadt) includes 4 Nike-Hercules antiaircraft missile battalions (36 launchers each), 8 Improved Hawk surface-to-air missile battalions (4 have 27 launchers each and 4 -- 24 launchers each), 3 Chaparral-Vulcan battalions (24 Chaparral missile launchers and Vulcan antiaircraft gun mounts apiece).

In addition to the elements enumerated above, U.S. ground forces in the Central European TMO include various combat and rear services support units and subunits, including a nuclear munitions artillery-technical support brigade, a signal brigade, a transport brigade, a military reconnaissance group and construction engineer brigades, etc.

U.S. ground forces combined units are armed with the following: 108 Pershing launchers and 36 Lance missile launchers; 3000 medium tanks of the latest modifications -- M60A1, A2, and A3; more than 600 203.2 and 155 mm self-propelled howitzers and 175 mm self-propelled field guns; 2500 TOW and Dragon antitank missile launchers, 500 Nike-Hercules, Improved Hawk (to be replaced by the Patriot system) and Chaparral antiaircraft missile launchers, plus other arms.

In conflict situations NATO Joint Forces command authorities would beef up U.S. ground forces, primarily by redeploying four "dual basing" divisions and independent units from the United States to the Central European TMO, heavy weapons and combat equipment for which are already prepositioned in the FRG. In addition, judging by reports in the foreign military press, it is planned to build storage depots in European NATO member countries to accommodate heavy weapons for two additional divisions. Problems of redeploying U.S. troops to Europe and conduct of combat operations in the TMO by these troops are continuously worked on at annual U.S. armed forces combined exercises such as "Reforger" and others conducted according to NATO command authority plans.

/West German forces/ include the 2nd and 3rd army corps. The 2nd Army Corps (headquarters in Ulm) contains the 4th Motorized Infantry (Regensburg), 10th Panzer (Siegmaringen), the 1st Mountain Infantry (Garmisch-Partenkirchen), and the 1st Airborne (Bruchsal) divisions, the 250th Lance Missile Battalion, corps artillery, a Roland 2 antiaircraft missile regiment, an antitank helicopter regiment, and other corps combat and rear services support units. It contains a total of 6 Lance missile launchers, more than 800 Leopard 1, M48A2 and A4 tanks, more than 500 artillery pieces and mortars, more than 900 antitank weapons, 500 Marder infantry fighting vehicles, plus other equipment.

The 3rd Army Corps (headquarters in Koblenz) contains the 2nd Motorized Infantry Division (Kassel), the 5th (Dits) and 12th (Wuerzburg) Panzer divisions, the 350th Lance Missile Battalion, corps artillery, an antiaircraft missile regiment, an antitank helicopter regiment, combat and rear services support units and subunits. They are armed with 6 Lance missile launchers, 900 Leopard 1, M48A2 and A4 tanks, approximately 500 field pieces and mortars, more than 600 antitank weapons, more than 500 infantry fighting vehicles, more than 130 helicopters of various roles, plus other combat equipment.

/Canadian forces/ consist of the 4th Independent Motorized Infantry Brigade (headquarters in Lahr), totaling approximately 3000 men. It is armed with approximately 60 Leopard 1 medium tanks, 24 155 mm self-propelled howitzers, 380 M113 armored personnel carriers, 10 CH-136 reconnaissance and observation helicopters (has the designation OH-58 in the U.S. Army).

Stationed in the area of "responsibility" of the Central Army Group are the French 2nd Army Corps (headquarters in Baden-Oos), consisting of the 1st (Trier), 3rd (Freiburg), and 5th (Landau) armored divisions, territorial command "South" of the FRG ground forces (Heidelberg), border guards command "Center" (Alsfeld) and "South" (Munich) which, foreign experts believe, can be used to reinforce the CAG and to bring its combined units and units up to authorized strength.

In the estimate of foreign military experts, the large NATO ground forces grouping in the Central European TMO, which is in a state of full combat readiness, will be substantially reinforced at the moment the situation deteriorates, by redeploying combined units and units from other areas (from France and Great Britain, for example, but particularly from the United States.

The combined units and units of this force are armed with Pershing 1A and Lance operational-tactical missiles, 203.2 and 155 mm self-propelled howitzers, capable of firing nuclear munitions, modern tanks of various modifications, infantry fighting vehicles, armored personnel carriers, TOW, Milan, and HOT antitank missiles, etc.

Within the overall system of military preparations in the Central European TMO, NATO command authorities attach great importance to operational and combat training of NATO ground forces, training which is of a clearly marked aggressive thrust. It is organized and carried out in conformity with concepts adopted by NATO, the content of which is determined by the views of NATO command authorities on the character of a future war and modes of its initiation, as well as present-day demands on the organization and conduct of combat operations. The principal objective of operational and combat training is securement of continuous readiness of headquarters staffs and troops to carry out combat missions in various types of operations, and combat both with and without the employment of nuclear weapons.

Following are the most characteristic features of operational and combat training of staffs and troops in the Central European TMO: a high degree of intensiveness of training to mount a first strategic offensive operation; rehearsal of organization and conduct of combat operations directly in the zones and areas assigned to combined units and units in conformity with operational deployment plans; elaboration of a complex initial military-political situation for exercises, a situation which simulates in all details the creation of crisis situations and the outbreak of an armed conflict between opposing forces in the TMO; combined rehearsal of missions by combining a number of particular exercises into a series (conducted on a unified operational-strategic background and with a unified scenario).

Reports in the foreign press indicate that general principles of organization of operational and combat training of staffs and troops, both according to national and NATO plans, have now been formulated in the bloc. In any case, however, a leading role is played by the NATO Military Committee. The commander in chief of NATO Joint Forces in the Central European TMO organizes and executes all large-scale measures pertaining to operational training of army group staffs on the basis of its directives and instructions of NATO Joint Forces

Headquarters in Europe. The demands of NATO military leaders, who are authorized to monitor and evaluate the results of combat training of troops designated for transfer to the NATO Joint Forces, are mandatorily taken into account in training combined units and units according to the national training plans.

The largest-scale exercises organized according to the national plans include "Reforger," the annual combined U.S. armed forces exercise, West German forces corps exercises ("Harte Faust," "Sankt Georg"), Belgian army corps exercises such as "Blue Fox," and British corps exercises ("Summer Sale" and others). Up to 350 exercises at the brigade-corps level are held in ground forces on the basis of national plans. In addition, they take part in annual NATO Joint Forces exercises such as "Autumn Forge," "Crested Eagle," "Able Archer," as well as the "Winter" exercises held every two years.

The aggressive character and high degree of intensiveness of operational and combat training of staffs and troops, just as all other military preparations by NATO command authorities, attest to the fact that it is aimed at comprehensive preparation of large strategic formations, combined units and units of the armies of the NATO member nations for war against the Soviet Union and the other nations of the socialist community. Therefore it is the duty of each and every member of the Soviet Armed Forces to be in a continuous state of combat readiness to offer a rebuff to any and all intrigues by imperialism, which is encroaching upon the interests of our homeland and the brother socialist countries.

FOOTNOTES

1. For more detail on the organization, numerical strength and quantity of principal arms of motorized infantry and panzer divisions, see ZARUBEZHNOYE VOYENNOYE OBOZRENIYE, No 6, 1981, pp 31-35, and No 7, 1981, pp 35-37 -- Ed.

2. According to other reports in the foreign military press, the Pershing II missile has a range of 2500 kilometers -- Ed.

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COMMENTS ON NATO TANK DEVELOPMENT TRENDS

Moscow ZARUBEZHNOYE VOYENNOYE OBOZRENIYE in Russian No 2, Feb 82 (signed to press 10 Feb 82) pp 40-46

[Article, published under the heading "Ground Forces," by Candidate of Technical Sciences Engr-Col B. Safonov: "Trends in Development of Tanks"; passages rendered in all capital letters printed in boldface in source]

[Text] Reactionary circles in the United States and other NATO countries are continuing to heighten world tension and to escalate the arms race. Alongside developing new nuclear missile weapons, they are at the same time implementing extensive development programs for conventional arms, including main battle tanks.

Tanks are presently in the arsenals of the armies of practically all the world's developed countries. They differ substantially from one another both in time of commencement of manufacture and in combat capabilities. A large percentage of the tank inventories of the NATO countries comprises models of the so-called second postwar generation, which became operational in the first half of the 1960's.

Judging from reports in the foreign press, development and improvement of tanks abroad is proceeding in two principal directions: development of new models and modernization of earlier models and models currently in production. It is believed that this first trend provides a substantial improvement in tank performance characteristics and effectiveness, but involves considerable expenditure of time and money. Development of the West German Leopard 1 tank, for example, took about 9 years, the British Chieftain -- almost 10 years, the U.S. M60A1 -- 10 years, etc. According to information published in the Western press, development of the U.S. M1 Abrams tank cost more than a billion dollars.

The second trend, that is, tank modernization, constitutes a continuous process of conduct of design and engineering measures aimed at improving their performance characteristics and extending their life cycle. In the opinion of foreign experts, this makes it possible within a comparatively short period of time and with limited expenditures to improve the effectiveness of tanks and to bring them into conformity with constantly growing demands.

FIREPOWER. As is noted in the foreign press, a most important role in tank development is played by advances in the area of improving tank armament. All foreign tanks carry 105 and 120 mm guns as main armament. Development, especially in recent years, of tank guns, fire control systems and ammunition has led Western experts to refrain from attempts to design tanks with combined missile-gun armament. Such armament was mounted only on U.S. M60A2 and M551 Sheridan tanks, which were built in limited numbers. Development of combined systems in France was terminated. Foreign experts note that at the present stage increase in the cost of a tank carrying such weapons greatly exceeds the achieved growth of tank combat effectiveness.

The following trends are noted in development of gun armament abroad: a gradual transition to larger caliber (120 mm), increased effectiveness of projectiles against armored targets, and employment of more sophisticated fire control systems.

105 mm tank guns are the most common. The tanks of the 1980's, however, which are already being delivered to ground forces, carry 120 mm guns, and preference is being given to smoothbore guns.

Foreign military experts emphasize that smoothbore guns are designed to fire only projectiles which are fin-stabilized in flight. They are somewhat inferior to rifled-barrel guns in effectiveness of firing high explosive-fragmentation shells, as well as in range of aimed fire. One argument in favor of the former, however, is the capability of substantially (by a factor of approximately 1.5) increasing projectile kinetic energy with a substantial barrel life. This is due to the fact that with a smooth bore surface preconditions are created for reducing the thermal and erosion stress by decreasing the surface area affected by propellant gases.

The principal projectile fired by foreign tank guns against armored targets at the present time is an armor-piercing fin-stabilized submunition projectile, which can be fired both from smoothbore and rifled guns (employing special rifling rings). Projectiles of this type achieve high penetration capability from the considerable kinetic energy which is brought to bear on the small contact area between projectile and obstacle. More effective submunition projectiles have been developed in the United States, Great Britain, the FRG, and Israel in recent years for 105 mm rifled guns. In France, where there were no subcaliber projectiles at all in the combat ammunition loads carried by the AMX-30 tank, such a round has now been developed. It is reported that its muzzle velocity exceeds 1500 m/s and that at a range of 3 kilometers it can pierce a solid armor plate 150 mm thick at a 60 degree angle of impact.

A subcaliber projectile for the West German 120 mm gun carried by the Leopard 2 tank, as the majority of other projectiles of this type, consists of the projectile proper and a separating sabot (Figure 1) [not reproduced]. The projectile proper consists of a steel body, a core of heavy metal, a five-finned stabilizer of light alloy with heat-resistant coating, warhead, and tracer element. The projectile's muzzle velocity exceeds 1600 m/s. Work is in progress to develop for this gun a submunition projectile with a monobloc homogeneous armor-piercing core of heavy metal without a steel case. It should

have a substantially greater transverse load and correspondingly greater armor penetration than the currently employed projectile. Foreign experts believe that today's fin-stabilized submunition projectiles have sufficient reserve potential for further improvement. For this reason they link increased tank gun capability to defeat armored targets with the development of such projectiles.

Capitalist countries are also working on improving other types of munitions. In particular, a multipurpose (shaped charge-fragmentation) projectile has been developed for the Leopard 2 tank's gun which, as is noted, possesses a high degree of armor defeating capability and is approximately equivalent to a 105 mm high explosive-fragmentation shell against area targets.

Considerable influence on increasing effectiveness of tank fire is exerted by equipping them with improved fire control systems (FCS). Modern FCS include gun stabilizers, laser rangefinders, electronic ballistic computers, and various sensors capable of sufficiently objectively figuring the difference between actual and standard firing conditions.

The majority of gun stabilizers used on foreign tanks are two-axis gyroscopic gun (turret) deviation rate control systems. The sight field stabilizes together with it (dependent stabilization). Systems with independent sight field stabilization, however, were designed for the M1 Abrams and Leopard 2 tanks. The German model is a two-axis system, while the U.S. tank has stabilization only in one plane (vertical). U.S. experts believe that such a system is considerably cheaper.

Foreign tanks began carrying laser rangefinders at the beginning of the 1970's. Foreign experts believe that they possess the following advantages over optical rangefinders: high speed, an automated process of applying measured range to sighting devices, a high accuracy of measurement which is virtually independent of range, small size and weight, easy to learn to use, etc.

Fire control systems in the tanks of capitalist countries presently employ analog and digital electronic ballistic computers designed to calculate tangent elevation and lead taking into account distance to target, type of projectile and a number of other factors which affect a projectile's flight trajectory. Development of these systems is proceeding in the direction of designing more highly accurate electronic digital computers. The physical size of the device, power requirements, and cost are being substantially reduced, with a simultaneous increase in the range of problems solved. In addition to computation of initial firing data, they handle the task of monitoring the operation and characteristics of practically all fire control system components.

Intensive efforts are in progress in capitalist countries on development of even more sophisticated fire control systems, in the process of which new technical solutions are obtained. A fire control system has been installed on the U.S. HSTV-L heightened-survivability light armored vehicle (tank) (Figure 2) [not reproduced], which should greatly reduce the time required by the crew to detect and destroy targets under various conditions. The vehicle commander's position is equipped with a panoramic sight with automated

control, which extends upward and rotates in the horizontal plane (360°). It features a head stabilized in two planes, a forward-looking infrared system (FLIR), a daylight optical channel and a TV system channel with three-dimensional display. The latter is transmitted to a display device positioned in front of the commander and can also be transmitted to display devices mounted by the two other crew member positions.

The gunner's sight, just as the commander's panoramic sight, has a head stabilized in two planes, an FLIR system infrared channel, a daylight optical channel, and a TV surveillance system channel with three-dimensional image, which can be transmitted to the commander and driver positions. The sight has a new laser rangefinder (with CO_2 laser) which possesses, in the opinion of U.S. experts, considerable advantages in penetrating ability over solid lasers. The gunner also has an additional sight with optical channel, which is mechanically coupled to the gun.

The U.S. firm Delco Electronics has advanced even further in the development of FCS. It has designed a system for the experimental HIMAG vehicle which includes the following: combined gunner's sight with independent optical field stabilization in two planes, an electronic ballistic computer, and automatic firing conditions sensors. Besides optical and laser channels, the sight has an additional infrared channel, as well as an electronic video tracking system, used when firing at moving targets. It automatically tracks the target and deviation of projectiles from it. Projectile trajectory information is used for automatic entry of requisite corrections, which increases target hit probability with the following round. As is emphasized in the foreign press, however, such FCS are very expensive.

Particular attention is focused on improving tank crew capabilities to detect and reconnoiter tragets. New and upgraded tanks extensively employ night vision devices (NVD). NVD of two types -- active and passive -- are in the most widespread use.

In recent years TV and infrared devices have begun to be installed on foreign tanks. The latter include infrared direction finders, which only detect targets, and infrared sights, which make it possible to detect and identify targets, and to lay the tank gun on them in conditions of smoke and haze, when targets are not optically visible, as well as when they carry thin layers of camouflage. In the United States combined infrared sights are being manufactured for the M1 Abrams and M60A3 tanks.

PROTECTION. Western experts note that considerable influence on tank development is exerted by the need sharply to improve their protection, that is, the ability to maintain combat effectiveness with various weapons employed against it. In connection with the great diversity of these weapons, tank protection is generally viewed in two aspects -- mass destruction weapons, and conventional weapons.

Modern tanks are provided protection against nuclear and chemical weapons by strength and rigidness of hull and turret, airtight seal, and creation of overpressure in the tank interior with the aid of filter and ventilation equipment.

Thicknesses of shielding materials are increased in order to protect the tank crew against radiation. Judging by reports in the foreign press, the new M1 Abrams and Leopard 2 tanks offer a higher level of protection against penetrating radiation from a nuclear burst and radioactive-contaminated terrain in comparison with second-generation tanks.

Foreign experts consider improvement of tank protection against conventional weapons to be a most important problem in tank development at the present stage. It involves two principal directions: decreasing tank hit probability and increasing its resistance to the effect of striking projectiles. Various design solutions are employed to accomplish the former. First and foremost these include reducing tank dimensions, especially height. The M1 Abrams tank, for example, is almost 600 millimeters lower than the M60A1.

In their opinion, one way to decrease tank hit probability is to increase its battlefield mobility. High tank battlefield mobility, in combination with a low silhouette, enables it to make better use of protective features of the terrain and make it difficult for an opposing antitank weapon to accomplish a fire mission.

Employment of means of camouflage and concealment plays an important role in this. It is stressed that a tank should be given the capability of camouflage and concealment across a broad range of emissions (visible, thermal, sound, radar, etc). In connection with the development of beam-guidance antitank weapons, special indicator devices which respond to radiation are being developed for tanks. They should provide the crew with the capability to take protective measures quickly.

Foreign experts link increased tank resistance to the effect of various antitank projectiles with further improvement of armor protection, improvement in tank layout, and other measures. It is noted in the foreign press that considerable progress in this was achieved by the development of so-called composite armor barriers. One version of such barriers is spaced armor, which in recent years has come into widespread use in foreign tank design. In particular, the turrets of the Leopard 1A3 and 1A4 tanks are made of spaced armor.

Multiple-layer composite armor was first employed on the MBT-70 U.S.-West German experimental tank. In 1976 British experts developed a composite armor (designated "Chobham") which is a combination of three layers: "steel-ceramic-steel or light alloy." It is used on British Challenger tanks (Figure 3) [not reproduced], which constitute a further evolution of the Chieftain tanks, on the Leopard 2 and M1 Abrams. A sharply improved level of protection against conventional weapons, in the opinion of NATO bloc experts, is a most important feature of these vehicles. Employment of spaced and composite armor has dictated changing from cast to welded turrets.

Certain efforts are in progress abroad to improve the protection of earlier models. Additional armor plates, for example, were installed on the turrets in the process of modernizing Leopard 1 tanks. In some instances a filler can be placed between the principal and supplementary armor, which increases, for example, resistance to the effect of shaped-charge projectiles. In particular,

such measures have been proposed by the U.S. firm Teledyne to upgrade M60 series tanks.

Localization of damage beyond armor is also considered to be a promising trend. An endeavor is made to locate vitally important tank components in such a manner as to reduce the probability of complete tank breakdown even when its armor is penetrated by a projectile. For this reason ammunition is isolated by armor bulkheads, and fuel is carried in protected tanks in the peripheral areas of the interior space.

Western experts note at the same time that measures to increase tank protection lead to an inevitable increase in tank weight. Therefore they link problems of increasing protection with mobility requirements on tanks.

MOBILITY. As is reported in the foreign press, there can be seen in foreign tank design a persisting trend toward increasing tank average speeds under various road and soil conditions and toward improving their dynamic and maneuver properties. This consists first and foremost in increasing power-to-weight ratio by employing improved engines. In second-generation tanks the power-to-weight ratio ran 15-20 hp/t, while it has reached 27 hp/t in the Leopard 2, with even higher demands imposed on future tanks.

Foreign experts consider development by the U.S. firm Avco Lycoming of the 1500 horsepower AGT-1500 gas turbine engine (GTE), which powers the M1 Abrams tank, to be a major step forward in tank engine design.

In recent years several new diesel tank engines have been developed abroad, including: the West German MB-873 12-cylinder water-cooled multifuel diesel (Figure 4, 1500 horsepower) [not reproduced], the U.S. AVCR-1360 (1500 hp) 12-cylinder air-cooled, variable-compression engine, and the British CV-12 (1200 hp).

Foreign experts who are advocates of the diesel engine believe that it still has sufficient unutilized reserve potential for improvement. Presently, for example, the U.S. firm Cummins is working on an "adiabatic" engine, the combustion chambers of which are coated with an insulating ceramic. Alongside the piston oil cooling employed on diesels built by the French firm Citroen, this, in the opinion of Western experts, would make it possible substantially to simplify the cooling system and to achieve gain in weight, cubic capacity and horsepower while reducing specific fuel consumption to 135 g/hp/h. A diesel engine being developed in France employs an additional combustion chamber designed to increase turbocharger output. This can increase power output and improve engine responsiveness. French experts note, however, that it is very complicated and uneconomical at the present time.

The transmissions employed on foreign tanks are mechanical or hydromechanical. The former is considered less modern. The new M1 Abrams and Leopard 2 tanks are equipped with Allison X-1100 and HSWL-354 hydromechanical transmissions respectively. Each has a compound hydrodynamic transmission with steering clutch, four-speed automatic gearbox and additional steering drive with hydraulic transmission, as well as hydraulic delay mechanism. Transmissions

of the latter type have also been developed in Great Britain for the Challenger (TN 37) tanks and in France for the AMX-30B2 and AMX-32 (ENC 200).

Installation of a hydraulic transmission not only in the supplementary but also in the main power train parallel with the mechanical train in such a manner that as speed increases, an increasingly smaller portion of engine power is transmitted through the hydraulic transmission, is considered a promising trend in improving hydromechanical transmissions.

It is stressed in the foreign press that a most important condition for increasing tank mobility is improvement of the suspension system. The majority of main battle tanks have individual torsion suspension. Torsion bar durability has increased sharply in recent years by employing high-alloy steels and special machining methods, which has made it possible to increase road wheel dynamic movement. In addition, improved dual torsion bar designs were devised (torsion bar in a tube). Alongside improving shock absorption characteristics, this has led to increased average tank speed.

Foreign experts believe, however, that considerably better results could be achieved by employing a hydropneumatic suspension. At the present time two tanks in series production are equipped with such a suspension system -- the Swedish STRV-103B and the Japanese 74. Such suspension systems have a nonlinear characteristic curve (Figure 5) [not reproduced] and have a number of other advantages: possibility of combining spring and damper in one assembly, convenience of layout, etc.

LAYOUT. Most characteristic for modern tanks is a layout which has become traditional, where the main gun is mounted in a rotating turret, the powerplant and transmission are in the rear section of the hull, and the crew members are positioned separately: the driver in the forward part of the hull, and the others in the turret. It possesses a number of advantages over other arrangements, which for this reason are in limited use.

At the same time it is noted that the traditional arrangement also contains certain inherent drawbacks (high vehicle silhouette, large turret, difficulty in providing reliable protection against modern antitank weapons and mass destruction weapons), which force Western designers to conduct a constant search for new solutions. In the FRG, for example, several tank designs with different layouts were devised in the course of the Leopard 3 tank project: mounting two 105-120 mm tank guns in the hull (casemate mounting), one 105 mm gun in the turret with a limited traverse (±90°), and with the gun exterior mounted on a swiveling platform.

The first arrangement reduces tank overall height and increases its protection and firepower (when firing at stationary targets). Since the gun is laid in the horizontal plane by turning the entire vehicle, it is difficult to fire while rolling at a moving target.

Employment of a turret with limited traverse makes it possible to reduce overall vehicle height and improve its protection by configuring the engine-transmission compartment "vertically"; it is necessary thereby, however, to shift the turret forward, which complicates the employment of long-barreled guns.

Foreign experts believe that a possibility of building a compact, well-protected hull and obtaining small tank turret frontal projected area is offered by an arrangement with exterior gun placement. Such an arrangement is being studied in several countries. In Sweden, for example, tests are being conducted on a light tank (based on the Marder IFV) with an externally-mounted 105 mm gun. The U.S. HSTV-L experimental vehicle has approximately the same arrangement. As is noted in the foreign press, in time vehicles with external-mounted armament may become genuine competitors to conventional turret tanks, but this will require solving two problems: automated loading and remote gun control.

At the present time several capitalist countries have designed or are designing tanks the layout of which is a compromise between the traditional arrangement and new solutions. In the Israeli Merkava tank, for example, the engine-transmission compartment is located in the forward part of the hull, providing additional protection to the crew. Access to engine and transmission for servicing and maintenance is worsened, however, and they are more vulnerable.

A further development of this type of arrangement is proposed by the Swiss firm (Kontraves) for the NKPz tank (Figure 6) [not reproduced]. Its distinctive features are as follows: reduction in crew size to three; an automatic loading device; forward location of the engine-transmission compartment, as well as placement of ammunition stowage, fuel tanks, and storage batteries in isolated compartments in the rear part of the hull.

Thus intensive work is in progress abroad, and particularly in the NATO countries, aimed at further development of individual combat performance characteristics and improvement of the effectiveness of tanks which, in the opinion of foreign military experts, remain a most important element in the ground forces armaments system.

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PERCEPTIONS, VIEWS, COMMENTS

COMMENTS ON NATO AIR FORCES USING EXPERIENCE FROM LOCAL WARS

Moscow ZARUBEZHNOYE VOYENNOYE OBOZRENIYE in Russian No 2, Feb 82 (signed to press 10 Feb 82) pp 47-54

[Article, published under the heading "Air Forces," by Candidate of Military Sciences Col V. Kirillov: "Utilization of the Experience of Local Wars in NATO Air Forces Tactics" (Part 1 of two-part article)]

[Text] The aggressive wars unleashed by U.S. imperialism in Southeast Asia and by Israeli Zionism in the Near East are frequently characterized abroad as military conflicts "limited in forces and weapons involved as well as in the extent of territory on which combat operations were fought." Western aviation experts emphasize, however, that equipment and weapons were employed in these wars which were new for that time, the operational tactics of various air arms were perfected in actual combat conditions, and experience was amassed in penetrating a qualitatively changed air defense and in organizing close air support of ground troops and conduct of air reconnaissance. Many foreign experts carefully study the experience of these wars and the possibilities of utilizing it in present-day conditions in other theaters of military operations (TMO), especially in Europe. Such questions continue to be discussed fairly extensively in the foreign press. Nobody gives an unequivocal answer: some things are rejected, but a great deal is considered essential for adoption in air force combat training following suitable testing at exercises and maneuvers.

NATO Joint Forces air units and subunits are receiving new aircraft with more effective armament for operations with employment both of conventional and nuclear weapons. The leaders of the aggressive bloc consider aviation in its present state to be one of the principal strike components of the general-purpose forces of the joint forces and assign it an important role in initial offensive operations. Foreign experts believe that the effectiveness of operations by tactical aircraft in the European TMOs is determined chiefly by how successfully they can penetrate the enemy's air defense system.

We examine below, based on materials in the foreign press, the views of NATO military experts on utilization of the experience of air combat actions in local wars in devising tactics, as well as modes and methods of conducting electronic warfare for ensuring penetration of hostile air defense by tactical aircraft.

Western experts have differing views on the employment of certain tactics and their development, and agree only on one thing: not all old methods are suitable: many must be revised. This is due to the fact that more sophisticated means of engaging aircraft in the air have been developed, radar detection range and resolution have increased, and warning and control systems have become more reliable. As a result, incursion into hostile airspace today involves much greater risk than in the recent past.

Some NATO experts claim that the experience of local wars has provided emulation-suitable techniques for aircraft to evade hostile air defense weapons and for undetected penetration to strike targets. Their advantages and drawbacks have been determined, and recommendations have been drawn up on their most efficient utilization. But to carry out these recommendations in changed conditions requires more highly complex aircraft, other weapons, and diversified radioelectronic equipment. In the opinion of foreign experts, the F-111 (see color plate) [not reproduced], Jaguar (Figure 1) [not reproduced], and the F-4 Phantom 2 aircraft, which comprise the backbone of NATO Joint Forces attack forces, as well as the new Tornado tactical fighter which is being delivered to air units, are supersonic and multirole combat aircraft. They possess satisfactory maneuver characteristics and can perform assigned missions in combat against hostile air defense. It is believed that their on-board equipment gives them the capability to take active part in electronic warfare, while their air-to-air weapons enable them to repulse fighter-interceptor attacks.

As is noted in the foreign press, equipment capabilities have always determined choice of directions in devising tactics. Discussing the present state of equipment, the British AERONAUTICAL JOURNAL stated that recently there have appeared two views in the West on the question of tactical aircraft combat against air defense. In the opinion of British air force experts, for example, penetration of a danger area by attack aircraft should be accomplished at low and extremely low altitudes, employing contour flying, which will ensure maximum concealment against the terrain background. Individual aircraft means of protection (jamming gear) should be switched on only when penetrating anti-aircraft missile zones. It is acknowledged that on the whole low altitude guarantees concealment of approach and the element of surprise, but its employment involves a number of difficulties. These include difficulty of flying the aircraft, finding the target and attacking it on the first pass (particularly in poor weather), increased fuel consumption, and rapid tiring of the aircrew. All these factors taken together demand a second crew member on board a strike aircraft. In addition, flight at these altitudes practically excludes the possibility of employing large groups of aircraft, that is, reduces the density of strikes.

Another view, which is held in the U.S. Air Force, is based on massive employment of a large number of strike and auxiliary aircraft. Their sequence of actions is as follows: determination of the location and evaluation of discovered hostile air defense weapons; "neutralization" or suppression of these systems; delivery of the attack from altitudes which are most suitable for accomplishing the given mission (strike groups operate under strong anti-fighter cover). At the same time it is emphasized in the U.S. press that this

by no means signifies rejection of employment, in certain conditions, of wave-type actions by small groups or even single aircraft, not unlike the "night raids" by F-111A fighter-bombers in Vietnam.

One U.S. general stated that air combat tactics over North Vietnam were the result of long and serious work and that in planning combat operations in the future it is essential to take into consideration the lessons learned there. He further stated that there now exists a firm rule -- be able to avoid air defense weapons by techniques of bypass and evasion, and if this is impossible, the enemy's defense should be "blinded" by electronic countermeasures. When this proves insufficient, it is necessary to shift to direct attack and destruction of air defense installations. In the opinion of this general, in each specific instance the quality of forces and equipment allocated to attack specified targets and suppress air defense en route and in the target areas will depend on the nature and size of the target and on the degree of hostile air defense countermeasures.

Foreign experts believe that it is one thing to list different versions of penetration and quite another thing altogether to figure in a realistic manner how effective they will prove to be in present-day conditions, especially in Central Europe. Taking low-altitude flight by tactical fighters as a basis, they believe that in Vietnam this led to a decrease in the expected number of killed targets, but increased the survivability of friendly aircraft and aircrews, as well as their readiness to fly the next combat sortie. Only the first generations of antiaircraft missile systems were employed in local wars. The technical and tactical flexibility of these systems has increased greatly today. Detection of low-flying targets on the ground clutter background has improved with the development of pulse-Doppler radars. Proceeding from this, experts in the West are studying the experience of local wars and are seeking new tactics for penetrating hostile air defense.

Air force experts in the NATO countries have reached the conclusion that low-altitude flight as a means of penetrating air defense is most preferable for the conditions of Europe. In their opinion flight at treetop level is the only technique which enables the crews of tactical fighters to evade detection by hostile ground means, while all other tactics require preliminary suppression of at least 80 percent of air defense weapons along the route of flight.

In confirmation of the above, the Swiss journal INTERNATIONAL DEFENSE REVIEW listed the following tactics and other measures to decrease probability of detection by various means of aircraft penetrating air defense:

visually and by optical instruments -- flight at minimum altitude at a speed of Mach 0.8-0.9, maintaining steady engine operating conditions in order to avoid generating a smoke trail, and utilization of natural colors in camouflage paint jobs (sky background on the underside, and ground surface on the top);

by means of infrared equipment -- flight at minimum altitude and at supersonic speed, cutting in afterburners only in an extreme emergency, ejection of infrared decoys, shielding the most highly-heated parts of the engine, and employment of heat-absorbing coatings;

with radar -- flight at minimum altitude, active and passive jamming, designing of aircraft to obtain the least effective reflecting surface area, and employment in airframe construction of materials which absorb electromagnetic radiation.

Flight at minimum altitude is listed first in all the instances enumerated above. As is reported in the foreign press, such a tactic for evading air defense weapons (flight at low and extremely low altitudes) has been adopted by the air forces of all NATO bloc member nations and is rehearsed by aircrews in the process of combat training. Everything possible has been taken from the experience of air combat operations in local wars, especially measures undertaken to reduce the physical stress loads on aircrews. In particular, based on the experience of U.S. air operations in Vietnam, under standard conditions (height 80-90 meters, speed approximately 800 km/h) a pilot's reaction to external factors should be practically instantaneous, since there is very little time to correct mistakes. Any additional task other than flying the aircraft (chiefly involving maintaining height above ground surface) brought aircrew stress toward a critical value. An increase in flying speed had the same effect. In the opinion of U.S. Air Force experts, after reaching a certain stress limit, the self-preservation instinct would commence operating, and in order to lessen the intensity of attention devoted to monitoring flight safety, the pilot would climb, becoming vulnerable to air defense weapons.

Proceeding from this and endeavoring to find the golden mean between the demands of safety, aimed at avoiding collision between tactical fighter and ground, and measures making it invulnerable to hostile antiaircraft fire, Western experts rejected the so-called "supersonic dash" and worked out optimal flight conditions for aircraft of various types, taking into account their performance characteristics and navigation-flight equipment. Special automated contour flying and obstacle avoidance flight control systems were installed on the principal fighter-bombers in order to reduce altitude and increase speed.

According to statements in the foreign press, a considerable share of the stress on a combat flight is caused not so much by the physical and mental work loads as by the feeling of danger, a feeling of uneasiness. In a situation of heightened threat, a pilot's process of logical thinking becomes dulled; he needs simple but explicit commands. If a command is complicated, one must think it over; if it is not explicit, it may fail to attract the pilot's attention. Heads-up display systems, displaying control information against the background of the windshield, were developed in conformity with these requirements; such systems have become regular equipment on all new strike aircraft of the NATO bloc member nations.

The experience of local wars has shown that the danger factor which arises in a combat situation diminishes by almost half the effectiveness of air actions. In order to create conditions maximally approximating actual combat, the member nations of the aggressive NATO bloc maintain entire range complexes. These facilities, in addition to various targets and installations, contain working models of enemy ground air defense facilities, including those which radiate emissions, which simulate the operation of radars, electronic countermeasures

equipment, etc. These facilities are also outfitted with special equipment for objective monitoring and evaluation of aircrew performance.

One of the largest such facilities has been built in the United States, near Nellis Air Force Base (Nevada). At this facility U.S. military aircraft hold exercises on the "Red Flag" program, which regularly involve the participation of aircrews from the British Air Force as well as other NATO countries. Various electronic countermeasures equipment is extensively utilized at these exercises.

As a rule exercises are two-sided, that is, tactical fighters, bombers and ground attack aircraft are subjected to aggressive defense by fighter units and subunits acting as the "enemy." As is reported in the foreign press, the U.S. Air Force has formed special squadrons for this purpose, manned by veteran flight personnel. They fly aircraft which allegedly have performance characteristics close to those of enemy fighters, and their pilots use the enemy's tactics.

Conduct of exercises in these conditions, NATO leaders figure, should strengthen the psychological toughness of pilots and greatly increase their survivability in a situation with real opposition by antiaircraft weapons and fighter-interceptors.

Studying the experience of combat operations in past wars, NATO experts have once again concluded that success in accomplishing the missions assigned to aviation depends in large measure on correctness of disposition of friendly forces and weapons, as well as consideration of the concrete situation when choosing combat formations. Therefore they do not simply mechanically carry over to present-day tactics theses on combat formations elaborated during local wars, but seek to analyze them taking into account the conditions of specific TMOs. Some are rejected immediately, others are tested and verified in the process of air force combat training, while in addition new ones are devised.

In particular, composite combat formations of the type employed in Vietnam and the Near East are being tested in Europe at NATO Joint Forces exercises. Aircraft of different types jointly perform one combat mission. For example, groups of F-104, F-4 Phantom 2 and Jaguar tactical fighters, proceeding in a single combat formation, have a common mission -- to knock an "aggressor" airfield out of operation. But each receives a more specific mission in conformity with the combat performance characteristics of the component aircraft. The F-104s, for example, suppress air defense and attack aircraft on the ground, employing conventional aircraft bombs and cannons; the F-4 Phantom 2s attack the runways with concrete piercing bombs, while the Jaguar fighter-bombers mine the airfield to prevent repair activities and verify results of the attack.

As is noted in the foreign press, spreading out the formation when entering a hostile air defense system detection and warning radar zone is a characteristic distinctive feature in the structuring of NATO Joint Forces aircraft formations at various stages of a mission, borrowed from the tactics of U.S. air forces in Vietnam and Israeli air forces in the Near East. Intervals and

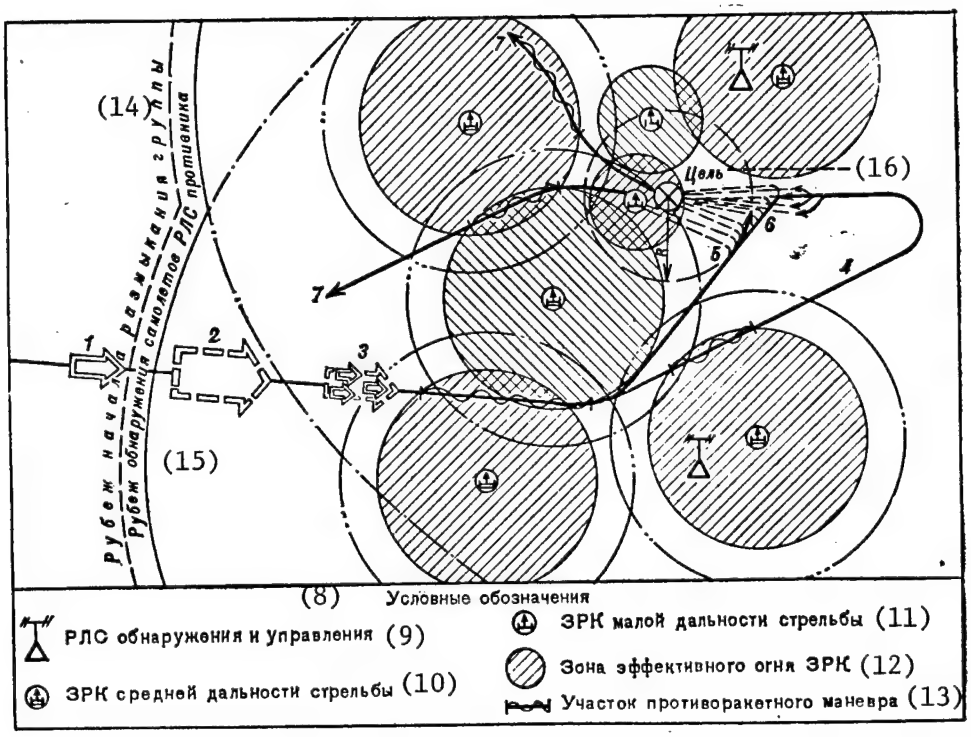

Figure 2. Diagram of Actions of an Attack Group Consisting of Three Flights

Key:

1. Group in close formation
2. Group in combat formation extended almost to the limits of visibility
3. Group in close formation; aircraft in flights proceed at minimum possible intervals and spacings
4. First flight executes deceptive maneuver -- feinting passage of the target at "a distance not arousing alarm"
5. Second flight attacks target from a circle (of radius R) with individual aircraft sequentially peeling off into a dive; the first two aircraft attack antiaircraft missile positions defending the target
6. Aircrews of the third flight attack the target in a fan with sequential turn from a straight course and initiation of a dive
7. Aircraft departure routes from target
8. Legend
9. Detection and control radars
10. Medium-range antiaircraft missile systems
11. Short-range antiaircraft missile systems
12. Zone of effective antiaircraft missile fire
13. Missile-evasion maneuver segment
14. Line at which group commences opening formation
15. Hostile radar aircraft detection limit
16. Target

spacings between aircraft and groups are increased practically to the limit of visibility. It becomes considerably more difficult to maintain formation parameters with this, but since aircraft are flying at low altitude, capability to approach the target undetected is maintained. In the opinion of Western experts, such a dispersing of a group in frontage and depth increases survivability during en-route air defense penetration, while at the same time aircrews continue working in coordination and are prepared to re-form if the situation changes.

The combat formation assumes another form just prior to entry by the group into the fighter guidance, antiaircraft missile and artillery target designation radar zone. Aircraft close to the minimum allowable intervals and spacings, so that a flight is observed on a radar screen as a single return. This technique has been borrowed in its entirety from the experience of local wars. The aircrews of U.S. F-4 Phantom 2 and Israeli Mirage-3 tactical fighters followed this procedure in order to conceal from the enemy the group's strength and subsequent intentions.

In order to avoid lock-on (transition by antiaircraft weapon control system radars to automatic tracking in azimuth and range), closing of the group, especially during flight at medium altitudes, is combined with execution of the following maneuver -- alternating overtakings or S-turns with leader and wingman changing places. The amplitude of the S-turn and frequency of overtaking are selected in such a manner as to thwart the process of missile guidance to the target. It is emphasized in the foreign press that a maneuver designed to counter one guidance system may be totally ineffective against another. Correctness in selecting the character and parameters of a maneuver depend on the completeness of information available to aircrews and swiftness of their response to it. Such maneuvering as a rule is undertaken independent of whether airborne electronic countermeasures devices are switched on or not.

At the stage of the mission which involves aircraft incursion into the target air defense protection zone, approach to the target from the safest direction and attack in the shortest possible time are considered the main factors. The direction of the attack run is most frequently determined during the mission briefing, in the process of studying the target and its defense system. The attack is usually run from a circular course or fan, with individual aircraft sequentially initiating a dive. Deceptive maneuvers are also frequently executed, such as a feinting target passage at "a distance not arousing alarm," followed by an unexpected attack from the rear.

During the attack, in order to diminish the effectivenes of antiaircraft missiles which home in on engine exhaust gases, it is recommended that aircraft execute maneuver while retaining maximum aircraft angular speed movement relative to the antiaircraft missile site and at the same time complete the maneuver in the shortest possible time (at annual competitions among tactical air subunits of the NATO member nations, 20 seconds has been established as the time for executing an attack from extremely low altitude). Figure 2 contains one version of employment of the above-described tactics (the actions only of strike aircraft are indicated in the diagram).

As was mentioned above, selection of strike group formations and the decision to employ a given tactic at various stages en route and on modes of attacking the target should be performed taking into account concrete situation conditions and possible variants of situation change. All this requires considerable time and therefore as a rule is performed during mission preparation which, in the opinion of foreign military experts, also determines mission results to a large extent. Proceeding from this position, the air forces of the NATO countries devote considerable attention to improving organization and methods of preparing aircrews for missions, with the experience of air combat operations in local wars as well as peacetime training exercises and competitions also thoroughly taken into consideration.

According to reports in the foreign press, determination of the area of potential attacks on a ground target is one of the new innovations in the method of preparing the crew of a strike aircraft for a combat mission. The dimensions of this area depend on the effective range of the aircraft's weapons (the same as with a fighter in an air target intercept). The results of comparison of this area with the area under fire by air defense weapons protecting the target serve as a basis for choosing tactics.

With the employment of conventional bombs, rockets and aircraft cannons in local wars, the attack almost always took place within the area under antiaircraft fire. In order to reduce losses, the time required to ready antiaircraft missiles and antiaircraft artillery to repulse an aircraft attack (reaction time) would be taken into account. The so-called surprise-appearance method was devised on this basis, employed by U.S. pilots in Vietnam. It consisted in executing the attack prior to initiation of response actions by air defense weapons, that is, when the duration of the attack was shorter than reaction time. Loss of the element of surprise would force them to maneuver even during the attack run dive up to the moment of bomb release (opening fire), which would result in a sharp worsening of accuracy in hitting the target.

The poor degree of effectiveness of this method is graphically shown by an analysis of U.S. aircraft losses in Vietnam, conducted by Western experts: more than half of the total number of downed aircraft were hit by conventional antiaircraft artillery in the vicinity of the target. Crews of supersonic fighter-bombers equipped with complex navigation-aiming systems and radioelectronic gear failed to find effective means of combating antiaircraft weapons which were obsolete, in the opinion of Western experts -- guns -- the methods of employment of which had been known since World War II. Two conclusions were reached on the basis of these lessons: antiaircraft artillery subunits were reincorporated into all ground forces combined units of the NATO member nations; development of a new aircraft weapon was acknowledged necessary in order to combat antiaircraft guns.

Proceeding from the fact that the entire arsenal of tactics utilized in the target air defense zone had been exhausted and had failed to produce promising results, U.S. experts decided to increase the area of potential attacks and to make it larger than the area under fire by antiaircraft weapons. A result was the development of aircraft glide (guided) bombs, cluster bombs (Figure 3) [not reproduced], and TV and laser guided missiles. Their employment range

became commensurate with the effective range of tactical air defense antiaircraft missile systems. It would seem that a solution to this difficult situation had been found, since they had succeeded in achieving the main goal: avoiding aircraft passage over the target following the firing of air-to-ground weapons, and completing the attack prior to entry into the zone of effective antiaircraft fire. In addition, increasing target hit accuracy made it possible to assign fewer aircraft to a strike group and to assign unutilized aircraft to other missions.

As experience has indicated, however, there are also other weighty inhibiting factors; these include certain restrictions in the employment of these new weapons and their high cost (a guided bomb, for example, costs from four to five times as much as a conventional bomb). In addition, the target, when employing guided missiles and bombs, must be detected visually or with the aid of electro-optical devices, and this complicates target search and attack in conditions of poor visibility. There are also restrictions on missile-evasion maneuver on the part of the attacking aircraft (for example, when holding a laser beam on the target), while the effective range of these new weapons is presently insufficient for reliably ensuring safety of the aircraft. As a result of all this, hardware has come into conflict with tactics.

In view of the above factors, as well as development of air defense forces and facilities, U.S. experts and those of other capitalist countries are working on development of new air-to-ground weapons which would enable tactical strike aircraft to hit preselected targets without coming into range of defending antiaircraft weapons, that is, to eliminate or at least reduce losses of costly aircraft and personnel. At the same time new air tactics, air operation combat support, etc are being devised.

What conclusions are reached by NATO experts on the basis of study of the possibility of utilizing the experience of local wars in present-day conditions in the European TMOs?

Discussing this question, the British AERONAUTICAL JOURNAL states that massive air attacks of the Vietnam type are possible, but they involve heavy losses. It is further reported that at the present time coordinated "wave" attacks on forward air bases and other hostile air defense facilities are the best way to suppress the enemy's air defense system, attacks flown by fighter-bombers which approach the targets at high speeds and at extremely low altitudes, for the most part in adverse weather conditions and at night. The journal notes that other combat missions can be successfully accomplished only upon neutralizing the enemy's air defense.

Discussing the question of weapon selection, many Western experts are of the opinion that in connection with a sharp increase in the cost of new weapon systems it is necessary to change the criteria of evaluating the effectiveness of air combat actions. In particular, such indicators as number and weight of delivered bombs or number of sorties per day have ceased to be valid. Other characteristics have taken on much greater significance, such as the cost of destroying a target. In their opinion, the principle of economical expenditure of resources and least outlays to accomplish the assigned mission should become the leading criterion in planning combat operations, and this means that

it is necessary intelligently to combine the employment of expensive guided weapons and conventional mass-produced weapons. It was reported in the foreign press in this connection that in the October 1973 war in the Near East, and in the war in Vietnam as well, only a few targets were attacked with guided bombs, but a noisy debate over these weapons was initiated, and many people immediately forgot that at least 95 percent of attacks were delivered with conventional fragmentation, high explosive, incendiary and antipersonnel bombs, as well as rockets and cannon fire.

The U.S. journal AIR FORCE MAGAZINE stated: "While not minimizing the significance of 'smart' bombs, we must bear in mind that if we plan to bomb area targets or any other large targets, performing a mission of hitting an entire target area, there is nothing better in such instances than to employ a large number of conventional free-fall bombs."

It is noted in the foreign press that at the present time the ratio of new to old weapons employed in NATO Joint Forces combat training and at exercises clearly does not favor the former. This is directly reflected in a combination of new and old elements in air tactics. Primary emphasis is placed on rehearsing tactics of close combat with air defense weapons: undetected approach, visual target detection and identification; swift attacks with aircraft forced to pass over the target; air defense weapon evasion maneuvers with rapid course changes. And only after these compulsory elements have been mastered do tactical aircrews proceed with study and practical employment of expensive new weapons, observing the principle of hitting selected, the most important, targets. The cost of penetrating air defense, including losses of aircraft and pilots, should be equal to the importance of the destroyed enemy installations, while extensive employment of electronic countermeasures is one of the principal ways to decrease these losses. (To be continued).

3024
CSO: 1801/281

COMMENTS ON METHODS USED IN NATO COMBAT AIRCRAFT DEVELOPMENT

Moscow ZARUBEZHNOYE VOYENNOYE OBOZRENIYE in Russian No 2, Feb 82 (signed to press 10 Feb 82) pp 54-58

[Article, published under the heading "Air Forces," by Candidate of Technical Sciences Col Yu. Alekseyev: "New Approach to Designing Combat Aircraft"]

[Text] In recent years fantasies about a "Soviet military threat" have become one of the most favorite themes in the Western press, by means of which imperialist circles in the United States and their aggressive NATO bloc allies constantly seek to frighten the population of their countries. Attempting to justify multi-billion military expenditures and an escalating arms race, they endeavor to show how costly it is for them to develop and maintain means of defense against such a "threat." Attempts are made thereby to analyze the experience of designing and building weapons and combat equipment and to give recommendations on their development prospects. Some foreign publications, for example, report on research in the area of development of tactical combat aircraft which is being conducted on the basis of studying the capabilities of the potential adversary as well as NATO's existing and future means of combating him.

Judging from materials in the foreign press, U.S. experts consider cost indicators as well to be the principal criterion in evaluating such aircraft, alongside their capability effectively to hit ground targets (Figure 1) [not reproduced]. As foreign military experts claim, in the 1960's and 1970's development of tactical aircraft in the Western nations proceeded in the following basic directions:

Aircraft capable of performing combat missions involving attacking ground targets primarily from low altitudes in order to ensure smaller losses from enemy active means of air defense.

Special-function aircraft, including EA-6B, EF-111 and F-4G Wild Weasel electronic warfare (EW) aircraft, as well as container-type EW equipment to use on tactical fighters and ground-attack aircraft. Such aircraft are used to secure penetration of hostile air defense by strike aircraft.

Aircraft weapon systems which can be employed against ground targets at long range, without coming into range of active air defense means.

Aircraft have become steadily more complex, chiefly through expanded use of microelectronics and new materials. According to reports in the foreign press, precisely these two equipment and technology trends are determining advances in tactical aviation. It is believed that advances in the field of microelectronics, for example, have made it possible to develop automatic weapon control systems, target detection systems, complex communications and EW systems. New materials, especially composite materials, which combine such properties as high strength, a high modulus of elasticity and light weight, have made it possible to develop relatively lightweight airframes and engines with a high thrust-to-weight ratio, high operating temperatures and increased efficiency.

At the same time there is noted a continuous rise in the cost of weapon systems. This is due to the fact that the designers, frequently going in the direction of improving performance characteristics and giving systems new functions, less apply the principle of improving existing functions in order to enhance their reliability. The Western press contains information on attempts by experts to analyze the prospects of utilization of new equipment and technology for creating future weapon systems. The main emphasis is placed on those which permit weapons to be employed without coming within range of active hostile air defense means. In particular, mention is made of the first versions of such weapon systems and their components which are under development in the NATO countries (chiefly in the United States), such as the SOTAS (Stand-off Target Acquisition System) heliborne moving ground targets radar reconnaisance system, a system for determining the coordinates of sources of radioelectronic emissions and subsequent guidance of strike aircraft and guided weapons to these targets -- PLSS (Precision Location Strike System), radars with moving target selection, and the BETA battlefield situation tactical information collection and distribution system.

Foreign experts note the following positive qualities of such weapon systems: increased accuracy of detection and reliability of identification of ground targets, as well as speed of information transmission and processing, greater resistance to electronic countermeasures, utilization of high-endurance, high-altitude pilotless aircraft as platforms for sensors and primary information processing equipment, and spacecraft as well in a number of instances. It is expected that principal information collection, processing and control systems will be located not on board aircraft but on the ground, far from the battle area, which will make them less vulnerable to direct enemy strikes and electronic countermeasures and will ensure faster replacement in case of malfunction.

Judging from reports in the foreign press, all modern combat aircraft (in particular the F-4, F-16, F-111, and A-10) can release weapons without coming into range of active hostile air defense means. Payload and endurance are viewed as the main performance characteristics of aircraft which determine effectiveness of utilization of such weapons, and weapons proper are viewed as the principal technical problem in accomplishing the mission of destroying ground targets. It is believed, for example, that cruise missiles could be the ideal weapon for destroying certain stationary targets, such as bridges, rail traffic control centers, and route centers. They are expensive, however, and even with mass production they will be targeted, in the opinion of foreign

military experts, only at those targets which will not require frequent repeat strikes.

As regards air-to-ground missiles and guided bombs, the Western press points out that it is expedient to utilize them chiefly against moving targets, but only if the problems of cost are solved. The development trend in these weapons is to employ against a target a single warhead with a single homing head (a version of the "fire and forget" concept).* This is embodied in a number of systems under development (of the "Assault Breaker" type), which employ precision guided munitions in the terminal phase of flight. Guidance system cost and uncertainty of successful target lock-on by the homing head remain the principal problems in developing such munitions.

One possible solution to the problem of hitting distant moving targets is seen by NATO military experts to be in employment of weapons with a cluster-type warhead (filled with small-caliber unguided munitions) and a guidance system for the middle phase of flight, weapons which, in their calculations, are considerably cheaper than precision-guided weapons with cluster munitions. They make such a conclusion, in particular, on the basis of anticipated accuracy of determination of target location and accuracy of the delivery vehicle guidance system in the middle phase of flight. The results of this analysis, discussed in the foreign press, are shown in Figure 2 [not reproduced]. The following assumptions were made in plotting the curves:

The launch-platform aircraft carries six guided weapons of one of the considered types.

Weapons of all types are powered by identical propulsion units and middle-phase guidance systems with the exception of weapons with a jam-resistant command guidance system, but carry different cluster warheads (one is filled with small-caliber unguided munitions, another with precision-guided munitions).

"Optimistic" capabilities of a cluster warhead with precision-guided munitions are defined as a high target hit probability and absence of homing on decoy targets, while "pessimistic" is defined as half the target hit probability and almost 50 percent homing on decoy targets.

The examined cluster warheads with unguided munitions include presently existing similar models with corresponding combat capabilities.

The terms "high" and "low" cost (their ratio is 2:1) apply to the weapon body, propulsion unit, control and guidance system, and precision-guided munitions.

The cost of weapons with a command guidance system corresponds to "high" cost of weapons with an inertial guidance system in the middle phase of flight and a cluster warhead containing unguided munitions.

* For more detail on this concept see ZARUBEZHNOYE VOYENNOYE OBOZRENIYE, No 11, 1979, pp 10-14 -- Ed.

Western investigators reached the following conclusions as a result of this analysis. If every precision-guided warhead ensures a high probability of target detection and destruction (or disablement), such a weapon system is considered preferable in spite of its substantial cost. But when these characteristics are not realized or a large number of warheads lock onto false targets it is advisable, guided by economic considerations, to employ unguided cluster munitions delivered to the target by vehicles with guidance in the middle phase of the trajectory, although they are less effective. It is recommended that such weapons be employed chiefly against poorly protected targets, such as antiaircraft missile sites and early warning radars.

As foreign experts note, the cost of the airframe and powerplant of flying vehicles, which comprises up to 65 percent of the total cost of the most expensive weapon systems, remains an important problem. They view design of aircraft based on the following criteria to be a promising tactical aircraft development trend: the product of combat payload times combat radius is adopted as an indicator of combat capabilities, while the product of powerplant thrust times takeoff weight is taken as indicator of size and complexity (and cost in a first approximation). In the opinion of experts, such an approach to evaluating aircraft makes it possible to analyze their effectiveness. They believe, for example, that with equal combat capabilities the carrier-based F-18 fighter, which in their view is less complex, is more effective than the F-4E aircraft (Figure 3) [not reproduced].

Foreign experts consider development of the next generation of V/STOL aircraft to be another way to achieve the potential of modern aircraft engineering. This is due to the fact that new materials and promising engines with a high specific thrust-to-weight ratio make it possible to reduce the combat performance characteristics of such aircraft to a lesser degree. In addition, they believe that employment of a new generation of precision-guided weapons on tactical aircraft will result in their combat payload being determined primarily by the number of hardpoints, rather than ordnance weight. This will lead to a further reduction in differences between V/STOL and conventional aircraft. It is assumed that in most cases the former will fly combat missions from regular air bases, while the percentage share of aircraft which are "paid" for their V/STOL function will not substantially differ from that of aircraft "paid" for the requirement of a variable-geometry wing. The principal advantage of V/STOL aircraft, according to Western investigators, is the capability to operate in critical situations, when conventional aircraft will be unable to fly combat missions as a consequence of destruction of airfields and highways.

Proceeding from these points, NATO experts recommend that the development of tactical aircraft be accomplished on the basis of the principle of employment of promising technology for building aircraft possessing totally new capabilities. Development of such aircraft is a costly business, as is proven by figures on the acquisition programs for certain aircraft and weapon systems. Judging from reports in the foreign press, for example, the total cost of the AH-64 Blackhawk antitank helicopter acquisition program totaled 5.5 billion dollars (in 1980 prices), F-18 Hornet carrier-based fighters -- 29.1 billion, A-10 Thunderbolt 2 attack aircraft -- 6.0 billion, the Patriot antiaircraft

missile system -- 6.1 billion, the HARM antiradiation missile -- 3.8 billion, the AIM-7E Sparrow air-to-air missile -- 2.5 billion dollars, etc.

In the opinion of Western experts, savings in the development of promising aircraft can be achieved by extending the time interval between new aircraft development projects and purchases of a limited number of highly effective weapons, such as V/STOL fighter-bombers and high-altitude, high-endurance pilotless aircraft. Making recommendations on new directions to follow in developing tactical combat aircraft, Western investigators note that their implementation will affect not only the concept of air forces organizational development and views on their utilization but will also result in increased production capacity in the aircraft industry, missile industry, and electronics industry.

3024
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COMMENTS ON USE OF RADAR EMISSIONS WARNING GEAR ON NATO AIRCRAFT

Moscow ZARUBEZHNOYE VOYENNOYE OBOZRENIYE in Russian No 2, Feb 82 (signed to press 10 Feb 82) pp 58-62

[Article, published under the heading "Air Forces," by Candidate of Technical Sciences Engr-Col F. Dmitriyev: "Aircraft Detection Receivers"; passages rendered in all capital letters printed in boldface in source]

[Text] In the aggressive plans of U.S. and NATO militarist circles, considerable attention is focused on expanding aircraft capabilities to penetrate the air defenses of the Warsaw Pact nations, for which an aggregate of measures is being carried out in the area of developing new and improving existing airborne electronic warfare gear, including airborne radar detection gear. This equipment is designed to warn the pilot that his airplane (helicopter) is being illuminated by hostile radar (chiefly detection and tracking radar, surface-to-air and air-to-air missile guidance radar), as well as warning the pilot of the need to execute an antiaircraft missile evasion maneuver and to switch on active and passive jamming devices.

Radar detection gear experienced the most extensive development beginning in the 1960's. The foreign press states that this is because precisely during the period of the aggressive war in Southeast Asia U.S. aircraft began sustaining high losses inflicted by antiaircraft missiles of North Vietnam's air defense system. Concerned by the poor effectiveness of electronic warfare gear in operation with the U.S. Air Force at that time, including radar detection equipment, U.S. command authorities assigned the task of developing as rapidly as possible improved devices for this purpose and of delivering them to combat forces at the earliest possible time and in quantities sufficient to equip all aircraft taking part in combat operations.

The newly developed detection gear, according to the foreign press, proved to be fairly effective, but its upgrading began almost immediately in connection with rapid advances in radioelectronic equipment. This process became practically continuous from the end of the 1960's.

This article, on the basis of information published in the foreign press, presents data on the most widely employed modern equipment of this type and describes the views of foreign experts on ways to achieve further improvement of this equipment.

FIRST-GENERATION RADAR EMISSIONS DETECTORS, which were developed and became operational in the second half of the 1960's and first half of the 1970's, are characterized by simplicity of design and circuitry and by limited capabilities to take a DF bearing on sources of radiated signals and to identify the type and purpose of the hostile source emitting these signals. For example, the AN/APR-25 and -26 radar detector units, which were widely employed by U.S. aircraft in combat operations in Southeast Asia, contained two direct amplification receivers -- a wideband receiver with four direction finder antennas, and a narrow-band receiver to intercept antiaircraft missile radio command signals and generate sound and light signals warning that the aircraft was possibly under attack, as well as a cathode-ray tube to display a rough (with an accuracy of ±45°) bearing to the radar source which was illuminating the aircraft. Receivers of similar design and possessing almost identical direction-finding capabilities were developed in France at this same time for Mirage fighters and in Great Britain for Jaguar and Harrier (ARI 18223) and for Buccaneer and Phantom (ARI 18228, FIgure 1) [not reproduced] aircraft. Judging from reports in the Western press, they are still used in limited numbers by the air forces of certain countries.

At the beginning of the 1970's the United States developed, in connection with the Wild Weasel program, a more sophisticated set of radar emission detectors, the AN/APR-36 and 37, which were installed somewhat later on Israeli Air Force aircraft which fought in the 1973 Arab-Israeli war. Their fundamental distinctive feature was utilization of an analog device to compare the parameters of sequentially received signals. Direction-finding accuracy was also somewhat improved (to ±30°), and there were a number of improvements in the information display devices. In particular, the display tube featured a variable-length trace to indicate the rough distance (with an accuracy of ±10 km) to the hostile radioelectronic emission source illuminating the aircraft. The trace presents an unbroken, dashed, or dotted line, depending on type of enemy radar (air target detection, antiaircraft missile or antiaircraft artillery control). And finally, the equipment incorporated an additional illuminated display which warned the pilot of the designation of the hostile facility illuminating the aircraft and its operating conditions.

In the opinion of U.S. experts, these new innovations provided sufficiently reliable pilot warning. Therefore such units began to be employed primarily on F-104G and F-4G Wild Weasel aircraft, which have the specific mission of ensuring air defense penetration by groups of strike aircraft. At the present time the air force aircraft of several NATO countries (Greece and Turkey, for example) are equipped with AN/APR-36 and -37 units; the Israeli Air Force also employs them, and the United States supplies this equipment to other capitalist countries.

SECOND-GENERATION RADAR EMISSIONS DETECTION EQUIPMENT, developed by U.S. experts in the mid-1970's, include in particular the AN/APR-38 unit, which is intended to replace the AN/APR-37. This unit, for the first time in foreign practice, employs a digital computer for automatic (real-time) identification of the type of radioelectronic source illuminating an aircraft. It would compare the parameters of intercepted signals (frequency, pulse repetition rate and duration), measured and converted into digital form, with information stored in the computer memory, and would then present on an illuminated display

information on the possible types of enemy equipment. In addition, the direct amplification AN/APR-36 unit was replaced by the superheterodyne AN/APR-35 in order to broaden the band of frequencies of intercepted signals. As is indicated by reports in the foreign press, however, the set of equipment consisting of the AN/APR-35 and -38 units was not extensively employed on aircraft.

Modern radar emission detection gear is represented by a large number of types of various function, complexity, and cost. They are intended for installation on practically all fixed-wing and rotary-wing combat aircraft of the United States and the other NATO countries. This equipment, state foreign experts, became possible due to development of an airborne digital computer in the United States in the first half of the 1970's, which can process data at a rate of 1.25 million computer words per second, requiring less than 50 watts of power and with volumetric installation requirements of approximately 1.6 dm^3.

The AN/ALR-46 unit (others are also based on this unit) was designed on the basis of such a computer for U.S. Air Force aircraft, in particular the B-52 and F-4. It is presently being extensively employed in Western countries.

This unit has a frequency band coverage 2-20 GHz. A DF fix on sources of radio signals is taken by the method of measuring the time difference between arrival of one and the same signal by two antennas separated in a horizontal plane. A CM-442 electronic computer automatically controls the operating modes of individual devices within the unit, compares the parameters of intercepted signals with data stored in its memory, forms electronic countermeasures control commands, and generates alphanumeric symbols which characterize the hostile radioelectronic emissions source and are displayed on indicator screens (Figure 2) [not reproduced].

More detailed information is found in the foreign press on the British counterpart of the AN/ALR-46 radar emissions detection unit, developed specifically for the Harrier fighter-bomber. It intercepts and determines the bearing to signals emitted by radioelectronic sources in the 1.5, 3, 5, and 10 centimeter bands, with root-mean-square error not exceeding 7° and average error running ±1.5°. The receiver has relatively low sensitivity (approximately 40 db) but has a sufficiently broad dynamic range (60 db) for such gear. It also has a separate channel for omnidirectional interception of radio command signals transmitted to enemy antiaircraft missiles. The frequency band of this channel is lower than that of the direction-finding channels, and therefore the overall frequency bandwidth of the unit is 2.5-18 GHz.

Two high-frequency amplifiers are used to cover this bandwidth, providing interception of signals from the aircraft's forward and rear hemispheres. The amplifiers are equipped with three pairs of antennas, each of which receives signals in a specific frequency subband. Direction finding is accomplished by comparing the arrival time of signals received by adjacent antennas turned 90° to one another (the width of the radiation pattern of each antenna in the horizontal plane is 135°). Receiving of signals with differing polarization is accomplished by antennas with circular right-hand

polarization. The overall surveillance zone of the antenna system in a horizontal plane relative to the aircraft is circular, and is ±45° in a vertical plane.

The heart of the radar emission detection unit is an electronic computer, which is capable of processing data on 200,000 received pulse signals per second. It is reported in the foreign press that when this computer was designed, the designers solved the problem of its operation jointly with airborne radioelectronic equipment of U.S. design and manufacture. This made it possible to use the computer not only on the Harrier aircraft but also on the Jaguar and Phantom.

In order to reduce the weight of the computer and to accomplish efficient utilization of available space on the Harrier aricraft, it is designed and constructed as several devices distributed through the fuselage and placed close to interacting radar detection receiver components. These devices include: preliminary signal processor, pulse signal data correlator, and final data processor.

The first of these devices converts received analog signals into digital form (in no more than 10 microseconds), which are then fed to the correlator, which compares the parameters of sequentially received pulse signals on a real-time basis. Extracted data on the signals from those hostile radioelectronic sources which can be considered as operating against the aircraft are fed into the final data processing unit.

This processor is the most complex part of the computer. It employs a 39 kilobyte memory, which enables it to compare data on operating frequency, antenna scanning rate, pulse duration and repetition frequency, which characterize the signals of 128 different types of enemy radioelectronic equipment. Using a special algorithm, the processor also performs a precise bearing measurement to the radioelectronic source which is illuminating the aircraft. The generated information is fed in the form of sound signals into the pilot's headphones and is displayed on the cockpit indicator screen, including bearing data, plus a series of alphanumeric and other symbols characterizing the type, functions and operating mode of the radioelectronic emissions source being analyzed.

It is noted in the foreign press that operation of this radar emissions detection unit on the Harrier aircraft demonstrated its high degree of reliability, characterized by a mean time between failures of at least 800 hours. It is believed that its performance characteristics are close to those of such modern U.S. equipment as the AN/ALR-69 units for the F-4E, F-16 and A-10 aircraft, the AN/APR-41 unit for army helicopters and lightplanes, and the AN/ALR-66 unit for U.S. Navy fixed-wing and rotary-wing aircraft.

FUTURE EMISSIONS DETECTION EQUIPMENT, which is anticipated to become operational in the air forces of capitalist countries in the latter half of the 1980's, should be automated to an even greater degree, in the opinion of foreign experts. They will include means of detecting, obtaining a bearing on and measuring the parameters of signals in newly employed frequency bands (millimeter, infrared, and visible light).

At the present time, according to the Western press, the specific design, circuitry and technical capabilities of future airborne emissions detection equipment have not yet been determined, but there exist a number of schemes, implementation of which will require utilization of so-called superhigh-speed integrated circuits, which are being developed in the United States and Japan at a rapid pace. With airborne electronic computers based on ultrahigh-speed integrated circuits, capable of performing a billion of more operations per second (modern electronic computers of this type can perform several million operations per second), foreign military experts consider it possible to develop fundamentally new detection equipment, which they call channelized receivers. According to their calculations, this equipment will be able to intercept and analyze signals emitted by such future radioelectronic devices as radars with frequency retuning from pulse to pulse or even with frequency measurement within the duration of a single pulse.

Judging from materials in the foreign press, the idea of a channelized receiver consists in employing a large number of discrete receiving channels which cover the required frequency band, in order to accomplish practically instantaneous spectrum analysis of an intercepted signal which has been converted into digital form. It is reported in particular that a channelized receiver prototype was tested during a period of 18 months on an experimental model of the B-1 bomber. Its weight, size, and power requirements, however, proved to be excessive, in the opinion of U.S. command authorities. At the present time, according to U.S. Air Force requirements, weight should not exceed 80 kg, occupied space 30 dm^3, and power requirements -- 1200 watts. Experts at leading U.S. companies believe that a receiver with such design characteristics can be built by 1985.

As is noted in the foreign press, advances in the development of new electronic components will also obviously lead to greater integration of detection receivers with aircraft weapons and airborne electronic jamming equipment, which will also require employment of sophisticated electronic computers.

Broadening of the total frequency bandwidth of intercepted signals is viewed as a promising direction in the evolution of detection receivers. Several practical developments are already in progress in this area in Western countries. The U.S. companies Dalmo-Victor and Perkins-Elmer, for example, have designed a receiver which covers a radio frequency bandwidth from 2 to 40 GHz and which operates together with a laser emissions receiver and analyzer operating in the 0.45-1.1 micrometer band. To detect a laser emission, the designers employ its coherence, which is determined with the aid of a (Fabri-Perro) interferometer, which has a field of vision angle of 90° and a sensitivity capable of recording a laser emission on the first received pulse with a 0.95 probability. It is believed that the bandwidth of detected laser emissions should be broadened to 11 micrometers in order to meet U.S. Air Force requirements on such a device.

In the opinion of Western experts, equipping aircraft with new detection receivers will make it possible to free aircrews from the chore of monitoring secondary details of the radioelectronic situation, so that they can more fully concentrate their attention on making important decisions.

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COMMENTS ON NATO NAVAL FORCES IN THE MEDITERRANEAN

Moscow ZARUBEZHNOYE VOYENNOYE OBOZRENIYE in Russian No 2, Feb 82 (signed to press 10 Feb 82) pp 67-73

[Article, published under the heading "Naval Forces," by Capt 2nd Rank A. Frolov: "NATO Naval Forces in the Mediterranean Sea"; passages rendered in all capital letters printed in boldface in source; passages highlighted by use of double-spaced words enclosed in slantlines]

[Text] Using as camouflage the notorious myth of a "Soviet threat," U.S. ruling circles and their NATO partners have set for themselves the goal of attaining military superiority over the Soviet Union. They evade response to our peace-seeking proposals, sabotage talks aimed at strengthening peace and, initiating an arms race which is unprecedented in scale, are continuing to build up the power of the North Atlantic bloc.

NATO leaders assign an important place to Southern Europe within the system of militarist preparations, which are on an unprecedented scale, viewing this region as one of the principal bridgeheads for carrying out their aggressive policy, aimed against the USSR and the other nations of the socialist community, as well as for achieving expansionist goals in the Near East and in the Eastern Mediterranean.

Calling this region the Southern European theater of military operations, NATO leaders have established here one of the three principal European NATO Joint Forces commands, the "zone of responsibility" of which covers the territories of Italy, Greece, and Turkey, as well as the Mediterranean Sea with all its islands, the Black Sea straits, and the southern part of the Black Sea.

The Mediterranean Sea, in the estimate of Western experts, is one of the main elements of the Southern European TMO. The NATO countries receive 40 percent of all their imported oil along this sea's shipping lanes. Every day there are more than 2000 merchant vessels of these nations in the Mediterranean Basin, one third of which are tankers. In the opinion of foreign military experts, the volume of maritime traffic in this TMO will increase sharply with the outbreak of war, since this will be dictated by the necessity of moving reinforcements and supplies within this as well as other TMOs.

It was noted in the foreign press that NATO command authorities, bearing in mind the geographic features and significance of the Southern European TMO, place the success of military operations on the southern flank in dependence primarily on activities of naval forces. They plan to assign the following missions to them: delivery of nuclear attacks both on sea and shore targets, gaining and holding sea supremacy, air and ship fire support to ground troops, execution of amphibious landing operations, blockade of straits zones, protection of sea lines of communication, plus others.

According to the estimate of Western military experts, combat operations on the sea will assume a large scale, will be fought on the water, under the water, and in the air, with employment both of conventional and nuclear weapons, and may be of an offensive or defensive nature. Naval forces of Italy, Greece, Turkey, and Spain, as well as U.S. and British naval forces deployed in these waters will take part in combat operations. Also possible is participation by the naval forces of France, which withdrew from the NATO military organization in 1966. In addition, NATO leaders assume that other countries of the Mediterranean basin (primarily Israel) which maintain close political, military and economic relations with the leading NATO nations and which are bound to the United States by bilateral treaties, may also fight on the side of NATO.

According to figures in the foreign press, naval forces of Mediterranean NATO member nations (excluding Spain) and U.S. and British naval forces in these waters total approximately 500 warships of the principal types and combatant craft, and more than 400 carrier-based aircraft and shore-based patrol aircraft. Transfer of the Spanish Navy into operational subordination to the commander in chief of NATO Joint Forces in the Southern European TMO is expected this year. This would somewhat alter the organizational structure of the commands in this area.

The above-indicated national naval forces are included in two principal naval commands established in the Southern European TMO in peacetime, depending on missions: naval strike forces, and joint naval forces (Figure 1).

NATO naval strike forces in the Southern European TMO are based on the U.S. 6th Fleet, which is considered to be the most combat-ready aggregation of U.S. naval forces in Europe. In addition, these forces would include individual Italian and British guided missile ships. Naval striking forces would perform missions of delivering nuclear attacks on sea and shore targets, gaining sea supremacy, providing air support to land forces, and mounting amphibious landing operations.

Placement of the U.S. 6th Fleet, Italian and British warships under the operational command of the commander in chief of NATO Joint Forces in the Southern European TMO would be effected, as has been reported in the foreign press, with a sharp deterioration of the international situation in the theater and on the outbreak of war, as well as during the period of conduct of NATO Joint Forces exercises in this region.

The commander of NATO naval striking forces is the commander of the U.S. 6th Fleet, who is resubordinated from the commander of U.S. Naval Forces, Europe (headquarters in London) to the commander in chief of NATO Joint Forces in the Southern European TMO (also a U.S. admiral). The headquarters afloat of the commander of the 6th Fleet is located on a U.S. Navy guided missile cruiser, while there is a special (shore) headquarters in Naples, under a deputy commander, for coordinating operations within the NATO system. The shore headquarters staff totals approximately 70, including 33 officers. In addition to U.S. officers, attached to headquarters are representatives of British, Italian, Greek, and Turkish naval forces, as well as liaison officers from ground forces, air forces, submarine forces, and other cooperating commands.

In peacetime shore headquarters plans and organizes participation by naval striking forces in general NATO exercises, details and formulates operation plans for the initial period of war. Considerable attention is devoted to matters pertaining to resubordination of the 6th Fleet, in the process of which it transfers from the U.S. to the NATO organization, as well as organization of coordination with other NATO Joint Forces commands in the theater, particularly with SSBNs and the NATO Joint Forces command.

According to reports in the Western press, under normal conditions the U.S. 6th Fleet totals up to 40 warships and auxiliary vessels, including one or two aircraft carriers (carrying 85-170 aircraft, half of which carry nuclear weapons), 2-3 guided missile cruisers, as many as 20 destroyers and frigates (including guided missile), several nuclear submarines, amphibious warfare ships and auxiliary vessels, plus shore-based patrol aircraft. In peacetime personnel are kept at wartime strength levels and total approximately 5000 men, including 1800-2000 Marines. The fleet's ships are at sea most of the time. When the international situation deteriorates, the 6th Fleet is usually beefed up by the addition of ships, aircraft and Marine subunits from the U.S. Atlantic Fleet.

Naval bases and ports in Italy, Greece, Turkey, and Spain are the principal basing locations for the ships of the 6th Fleet. The flagship with its headquarters afloat (an approximately 40-man staff) on board is assigned to Italy's Gaeta naval base (near Naples).

In connection with the implementation of U.S. expansionist policy in the Persian Gulf and Indian Ocean, during the last two years the zone of activities of 6th Fleet carrier forces has encompassed these areas as well. Having incited the conflict with the hostages in Tehran and exploiting betrayal of common Arab interests by former president Sadat, U.S. command authorities permanently maintain 10-15 ships of the 6th Fleet (including a carrier) in the northwestern part of the Indian Ocean. Warships, including aircraft carriers and general-purpose amphibious warfare ships, pass unhindered to and from the Indian Ocean through the Suez Canal. Simultaneously U.S. leaders are attempting to draw other NATO member countries into the orbit of these expansionist schemes and to give their actions an international character under NATO aegis.

As is emphasized in the foreign press, NATO naval striking forces in the Southern European TMO are to contain carrier and amphibious landing forces, as well as service forces. /The carrier force/ would include U.S. carriers and more than 20 U.S., British, and Italian escort ships in the Mediterranean. Plans call for transferring to NATO Italian and British ships during a period of sharp deterioration of the international situation, and with the arrival in the Mediterranean of reinforcements from U.S. naval forces in the Atlantic or Indian Ocean, they would be made operationally subordinate the NATO Joint Naval Forces theater command or operate on the basis of national plans. Western military experts do not exclude the possibility of incorporating one or two friendly carriers and carrier escorts in the NATO naval striking forces. It is noted thereby that they would operate as an independent multi-mission carrier group, would take part in combat operations to gain sea supremacy and protect sea lines of communication, primarily in the western part of the Mediterranean.

/The amphibious landing force/ might contain up to 10 amphibious warfare ships and transports carrying a U.S. reinforced Marine battalion. In addition, depending on the concrete situation, this force would be reinforced with amphibious warfare ships and Marine subunits of NATO Mediterranean countries, Great Britain and the United States. The naval forces of the NATO Mediterranean countries alone possess more than 80 amphibious warfare ships and vessels which could be employed to sealift Marine and army subunits to an amphibious objective area.

/Service forces/ (supply ships, tankers, and other auxiliary vessels) would be organized into an independent unit, which would be protected by escort ships. The principal mission of these forces is uninterrupted supply of all types of provisions and stores to the carrier and amphibious landing forces during preparation for and conduct of combat operations. After delivering supplies, auxiliary vessels would be removed from the NATO naval striking forces command, and their protection and escort would be organized with the aid of national forces.

NATO naval striking forces in the Southern European TMO, according to reports in the foreign press, are viewed by NATO command authorities as a most important means of conduct of combat operations in a limited war with employment both of conventional and nuclear weapons. A special role is assigned to these forces in a period of occurrence of a crisis situation in this region. In the period of aggravation of Syrian-Israeli relations in May-June 1981, for example, ships of the U.S. 6th Fleet and other NATO countries, under the pretext of holding NATO Joint Forces exercises, were placed under the operational command of NATO authorities, placed in an advanced state of combat readiness, and concentrated in the Eastern Mediterranean for the purpose of establishing a military presence and exerting pressure on progressive and democratic forces in the Arab nations.

Plans for utilization of naval striking forces in wars are regularly rehearsed at NATO Joint Forces exercises in the Southern European Theater, as well as at special 6th Fleet maneuvers held jointly with warships belonging to Italy, Great Britain, France, Turkey, Greece, and other countries. In 1980-1981 the

bulk of the missions assigned to the naval striking forces were rehearsed to the fullest extent at the "Dawn Patrol" and "Display Determination" exercises.

THE NATO JOINT NAVAL FORCES SOUTHERN EUROPEAN THEATER COMMAND was formed in 1967 following disbanding of the NATO high command in the Mediterranean TMO, which had been in existence since March 1953. Its mission, as NATO leaders see it, includes execution and support of naval striking forces combat operations, combat against hostile submarines and surface units, blockade of the Black Sea straits and the Strait of Gibraltar, support of land forces, execution of amphibious landing operations (Figure 2) [not reproduced], and protection of sea lines of communications.

In peacetime the joint naval forces command does not have forces and facilities at its disposal, with the exception of operating command and control agencies (headquarters staffs, communication and control centers). The warships and naval subunits of Italy, Greece, and Turkey, as well as Great Britain and the United States (not assigned to naval striking forces) designated for this command remain under the national commands. The conditions for their transfer to the joint naval forces commander are analogous to the conditions of transferring warships of the U.S. 6th Fleet over to NATO naval striking forces.

Doubling as commander of joint naval forces is the commander of Italy's Lower Tyrrhenian Naval District, who is directly subordinate to the commander in chief of NATO Joint Forces in the Southern European TMO. In peacetime the commander oversees, through his staff, combat training of naval forces of the Mediterranean NATO countries, organizes joint exercises of the national navies, and draws up plans for employment of joint naval forces in the theater. In wartime he would direct their operations, handle coordination with other forces, particularly naval striking forces, and coordinate the combat operations of task groups in separate parts of the Mediterranean.

The commander's headquarters (located on Nisida, in the Bay of Naples, consists of six departments: planning, operations, training, intelligence, rear services, and communications. The staff includes more than 120 representatives of the countries which assign forces to this command.

The NATO Joint Naval Forces command in the Southern European TMO includes eight independent commands: six sea commands in separate areas of the Mediterranean (Gibraltar, Western, Central, Southeastern, Eastern, and Northeastern), joint shore-based aviation, and joint undersea forces. In addition, the commander of the NATO naval force is subordinated to the theater commander of joint naval forces for operations "on request."

/NATO Joint Naval Forces area commands/ are headed by admirals of those NATO countries adjacent to the shores of which a given body of water lies, and in the Gibraltar and Southeastern areas -- by representatives of Great Britain. They oversee principally the national fleet forces assigned to the NATO Joint Forces, as well as the warships and vessels of the navies of other NATO member nations within the corresponding areas.

These commanders have headquarters staffs (represented by the headquarters of the national naval forces), which contain liaison officers from adjacent areas of the Mediterranean, as well as representatives of U.S. naval forces.

The combat force level of forces established directly in the areas of the Mediterranean is not constant and depends on the specific missions assigned by the commander of NATO Joint Naval Forces in the theater, or the developing situation. The main fleet and air forces of the Italian, Greek, and Turkish navies are assigned to perform these missions, as well as a portion of the British and U.S. warships in the Mediterranean. It is planned to leave under national command a small number of ASW and mine warfare ships, needed to ensure favorable operating conditions in the territorial waters of these countries or for operations according to national plans.

/The NATO joint shore-based aviation command/ was established in 1968 by decision of the NATO Military Planning Committee, for the purpose of coordinating the reconnaissance activities of the shore-based patrol aircraft of the NATO Mediterranean countries, the United States and Great Britain throughout the entire Mediterranean sea. It is headed by a U.S. admiral, who also serves as commander of U.S. naval aviation in this area.

In peacetime the commander, through his headquarters staff, controls aviation, monitors training, organizes exercises, and formulates plans for utilization of aviation in operations within the theater. In wartime his job includes directing combat activities and organizing coordinated actions with other NATO Joint Forces.

The commander's staff is headquartered at Naples. It includes representatives of the countries aircraft of which are assigned to the command. In addition, liaison officers of the NATO Joint Forces branches and the French Navy are attached to headquarters.

In contrast to other commands, U.S. and Italian naval aviation and British Air Force patrol aircraft and subunits are at the disposal of the shore-based aviation joint command. The number of assigned fixed-wing and rotary-wing aircraft depends on requirements at the given moment.

Patrol activities are handled chiefly by U.S. aircraft (up to 13 aircraft) flying from Sigonella (Sicily) and Rota (Spain) air force bases. In addition, a detachment of aircraft from the air base at Suda (Crete), which is under the U.S. naval aviation commander, Mediterranean, can also be attached to the joint command.

British shore-based patrol aircraft from airfields on the island of Crete and the naval base at Gibraltar, as well as Italian shore-based patrol aircraft and ASW helicopters periodically take part in patrol activities.

In case of a sharp deterioration of the situation in the Mediterranean, plans call for assigning to this command all shore-based patrol aircraft and ASW helicopters of the above countries, as well as Greek and Turkish patrol aircraft.

During exercises the number of airplanes and helicopters assigned to the command increases. It has been noted in the foreign press that during exercises principal attention is focused on improving the tactics of search and detection of hostile submarines and surface units. Matters pertaining to coordination of efforts between fixed-wing aircraft and helicopter search systems and ASW equipment of surface units are continuously rehearsed in daily activities and in a practical way at all exercises in the Mediterranean.

/NATO joint undersea forces/ would be formed in case of an emergency situation in the Southern European TMO or at the outbreak of war, and are also formed for the period of conduct of NATO Joint Forces exercises.

The joint undersea forces command was formed in 1967 and is headed by the commander of U.S. Navy undersea forces, Mediterranean. Command headquarters are in Naples. Plans for utilization of submarines of the NATO countries in a limited and general nuclear war are formulated here and coordinated with the naval striking forces and joint naval forces commands, and proposals on their employment are drafted for the commander in chief of NATO theater joint forces. Judging from reports in the Western press, submarines assigned to the command (as many as 60 nuclear and diesel-powered torpedo-armed submarines of the United States, Great Britain, Italy, Greece, and Turkey) would be used chiefly on antisubmarine defense lines and in specific areas to combat enemy submarines and surface units, as well as to support ASW activities of carrier and amphibious warfare forces, convoy escort, reconnaissance and disruption of enemy shipping in the Mediterranean and Black Sea.

U.S. SSBNs on combat patrol duty in the Mediterranean are not assigned to NATO Joint Forces in the Southern European TMO but are directly under the U.S. Joint Chiefs of Staff. The majority of their missiles, however, are designated for nuclear strikes according to the plan of the supreme commander, NATO Joint Forces, Europe. After all missiles have been launched, they can be assigned as multi-mission submarines to NATO joint undersea forces in the theater.

/The NATO naval forces for actions "on request"/ constitute a multinational NATO theater naval force. Its missions in peacetime consist in conducting joint combat training of warships of different nationalities (Figure 3) [not reproduced] and participation in NATO Joint Naval Forces maneuvers. Since 1970 it has been formed as a rule twice each year for the conduct of exercises (running up to a month) and includes one ship each from the United States, Great Britain, and the NATO Mediterranean countries. Submarines, carrier-based, tactical and shore-based patrol aircraft, patrol torpedo boats, and auxiliary vessels are detached from the naval forces of the participating countries to support the activities of this force.

An officer from each of the participating nations in turn is designated force commander. Operationally he is subordinate to the commander of NATO Joint Naval Forces in the Southern European Theater. The commander in chief of NATO theater joint forces exercises overall direction over the force for operations "on request."

According to information in the foreign press, this force contains the most combat-ready ships (destroyers and frigates, included guided missile), the personnel of which are at a fairly high level of proficiency and possess a mastery of their weapons and equipment. In the course of combat training and training exercises, ships work on uniform ASW tactics and organization of all types of defense during sea passage, and form common views (within the framework of NATO) on the conduct of combat operations on the sea and employment of various types of weapons.

From 20 May through 22 June 1981 this force conducted an independent exercise code-named "Deterrent Force 80/1," which involved the participation of the U.S. guided missile frigate "Talbot," the British guided missile frigate "Dido" and tanker "Gray Rover," the Italian frigate "Carabiniere," the Greek destroyer "Tombazis," and the Turkish destroyer "Marshal Fevzi Cakmak."

Their principal areas of operations were the Ligurian and Tyrrhenian seas where, according to the exercise scenario, an emergency situation had arisen in connection with a threat of seizure of political power in Italy by leftist forces.

It was noted in the foreign press that organization of such a force was determined primarily by military-political aims: to demonstrate the readiness and resolve of the Mediterranean NATO member countries, with U.S. and British support, "to defend their collective interests" on the sea by force of arms. In actual fact this was one of the NATO "fire brigades," which, by decision of the NATO leaders, can be sent to any area of a given region to apply political pressure to individual countries, including members of the North Atlantic Alliance.

Judging from reports in the Western press, during periods of aggravation of the international situation, the force can be beefed up, or a larger nultinational NATO naval task force can be formed.

In the course of numerous exercises on forming and utilizing the force for operations "on request," the possibility of transforming it into a permanent force, similar to the existing NATO naval force in the Atlantic, is studied. Because of disagreements between NATO member countries, however, particularly between Greece and Turkey, this question remains unresolved.

The above information on the structure, function and composition of NATO naval striking forces and joint naval forces in the Southern European Theater, taken from the foreign press, attests to the fact that NATO leaders assign them an important role in their military preparations in this theater. The organization of commands established in peacetime makes it possible, in the opinion of foreign military experts, swiftly to form and utilize task forces in various types of armed conflicts with the employment of conventional and nuclear weapons.

In spite of the existence of serious political and economic conflicts between NATO member countries in the Mediterranean, NATO command authorities seek to demonstrate their unity and preparedness to defend their "common interests"

by force of arms. Naval striking and joint forces headquarters are continuing formulation of new plans of employment of naval forces in the various parts of the Mediterranean and are stepping up operational and combat training. This once again confirms that NATO bloc military-political leaders are intensively preparing their naval forces for new aggression against peace-loving peoples.

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PERCEPTIONS, VIEWS, COMMENTS

COMMENTS ON U.S. NAVAL AMPHIBIOUS FORCES

Moscow ZARUBEZHNOYE VOYENNOYE OBOZRENIYE in Russian No 2, Feb 82 (signed to press 10 Feb 82) pp 73-79

[Article, published under the heading "Naval Forces," by Capt 1st Rank A. Romanov: "U.S. Naval Amphibious Forces"; passages highlighted by use of double-spaced words enclosed in slantlines]

[Text] U.S. ruling circles are steadily increasing the role of the military factor in foreign policy. Expanding the list of regions which are allegedly "vitally important" to that country by including Atlantic and Pacific lines of communication, the Indian Ocean basin, Western Europe, the Near and Middle East, Africa and East Asia, they have delineated the "boundaries of U.S. security" along a giant arc which encompasses practically all the regions of the world. In order to implement its aggressive schemes, the Pentagon is increasing to unprecedented dimensions expenditures on modernizing the armed forces and building up their combat force level. And as always in such cases, U.S. strategists attempt to justify their expansionist plans and measures with phony claims that the United States is falling behind militarily.

Under just such a pretext U.S. Secretary of Defense C. Weinberger, in a statement made at the beginning of August 1981 at a convention of the American Legion, an extreme right-wing organization, declared the intention of the Reagan Administration to continue its get-tough policy toward the Soviet Union and to adopt a "new military strategy," which consists essentially in preparing the country and its armed forces for conduct of a protracted war on a global scale. Toward this objective they plan to step up militarist preparations, particularly in areas adjacent to the USSR and the other socialist nations, to expand capabilities for strategic transport of troops and supplies from the United States to overseas theaters, and to step up the pace of development and production of promising weapons and equipment. Particular attention is focused on increasing the combat capabilities of naval forces, which are viewed as one of the principal elements of military power, as a mobile branch of service which to a considerable degree operates independently.

As is noted in the foreign press, of great importance among the missions assigned to the Navy is "projection" of U.S. military force across the seas and oceans to protect U.S. interests by "showing the flag," exerting pressure on the governments of sovereign nations, crushing the national liberation movement and supporting pro-Western puppet regimes, as well as initiation of conflicts

and conduct of combat operations. Since World War II the U.S. Navy and Marines have been involved more than 170 times in performance of various police functions and aggressive actions. They put landing forces ashore in the port of Inchon (1950), in Guatemala (1954), Lebanon (1958), the Dominican Republic (1965), etc. For provocational purposes the Pentagon regularly holds amphibious landing operations at the Guantanamo Naval Base, territory of the Republic of Cuba which is still being illegally occupied. During the Iran-U.S. conflict (1979-1980), amphibious assault forces were repeatedly attached to the detachment of U.S. Navy ships in the northern part of the Arabian Sea. Fleet forces and facilities supported the adventurist attempt to free the U.S. hostages in Tehran, which was undertaken by a U.S. Special Forces subunit in 1980.

According to the views of Western military experts, amphibious landing operations are today acquiring steadily increasing significance. The following data serve as confirmation of this. During World War I, for example, only five amphibious landings were made, and more than 700 in World War II, 72 of which were large-scale. It is believed that their number will increase to an even greater extent in present-day conditions. Depending on objectives and availability of forces, amphibious assaults can accomplish missions of seizing straits zones, important areas of enemy coastline, islands, naval bases, as well as supporting ground forces in coastal areas.

Sealifting of U.S. Marines to operational objective areas and bringing them ashore on enemy soil are accomplished by amphibious forces, the nucleus of which consists of special amphibious warfare ships, transports and landing craft. Organizationally they are a part of naval surface forces.

In conformity with the adopted administrative organization, all amphibious warfare ships and transports are organized into amphibious groups of the Atlantic and Pacific fleets, each of which contains four squadrons of 5 to 6 ships each plus transports of various subtypes and classes. In the matter of number of ships in a squadron, U.S. naval command authorities proceed from the requirement that its ships can accommodate a Marine expeditionary battalion.[1]

Judging from materials in "Jane's," the U.S. Navy possesses 65 amphibious warfare ships and transports, which have the capability, according to most recent reports in the U.S. press, to transport and land 1.15 Marine expeditionary divisions.[2] They include 2 command ships and 5 general purpose assault ships, 7 amphibious assault ships, 13 dock landing ships, 20 tank landing ships, 13 dock amphibious transports, and 5 amphibious cargo ships. Specifications and performance characteristics of these ships are contained in Table 1 [not translated].

/The amphibious command ships/ "Blue Ridge" and "Mount Whitney" are the flagships of the amphibious forces of the Pacific and Atlantic fleets. They are designated for command and control of sea, air, and ground forces at all stages of an amphibious landing operation, as well as for sealifting and landing a limited number of amphibious assault troops. Each ship has accommodations for 700 command and staff personnel. In addition to headquarters of the

amphibious force, these ships can accommodate Marine brigade, division and air group (air wing) headquarters.

/General purpose assault ships (LHA)/. These are fundamentally new, promising multi-mission ships of the "Tarawa" class (five units, Figure 1) [not reproduced], the designers of which took into consideration the experience amassed in the process of building amphibious warfare ships as well as modern demands made of them and of organization of amphibious landing operations. The main distinctive feature of the LHA is the fact that it possesses characteristics of amphibious warfare ships of several subtypes: the amphibious assault ship, the amphibious transport, dock, and the amphibious cargo ship.

As is noted in the foreign press, "Tarawa" class LHAs are an embodiment of the idea of achieving tactical integration in landing amphibious assault forces, each up to a battalion in size. They are capable of transporting Marines by boat to the beach and of off-loading weapons, combat equipment and fuel supplies, but also can helilift assault forces from ships deep into enemy territory.

Carrying a large number of CH-53 Sea Stallion and CH-46 Sea Knight assault transport helicopters, the LHA can perform functions which in the past could be performed only by the amphibious assault ship. Under normal conditions its helicopter group, which contains 4 Sea Stallion and 12 Sea Knight helicopters, can transport 400-500 assault troops in a single run ashore. The ship also carries 4 AH-1 Sea Cobra gunships.

In addition, the LHA carries 6 landing craft (2 LCM6s on the main deck, and 4 LCU1610s or LCU1466s in the well deck).

"Tarawa" class ships can carry approximately 200 tanks, jeeps, tractors, as well as 40 LVTP-7 amphibious armored personnel carriers, which are capable of simultaneously carrying 1000 Marines.

It became possible to assign the LHA the functions of an amphibious cargo ship by utilizing it for storing various military supplies in special holds. These supplies are moved by overhead monorail (in the hold) and raised to the main deck by five cargo elevators.

General purpose assault ships are equipped with the ITAWDS (Integrated Tactical Amphibious Warfare Data System) combat information-control system, which operates for the benefit of the amphibious task force commander and the landing force commander (commander of the Marine subunit or unit carried by the ships of the amphibious task force), as well as their staffs. It provides real-time display of all movements by ships, landing force, helicopters, landing craft, tracks the status of enemy targets ashore, and solves problems of determining optimal utilization of the ships' weapons and electronic warfare assets. In addition, ITAWDS makes it possible to analyze the air and surface situation in the objective area, including actions by supporting aircraft and shipborne support and security forces.

In the estimate of Western military experts, 5 "Tarawa" class ships can accomplish in a TMO the same missions that can be performed by 8 amphibious

transports, dock, 4 amphibious cargo ships, and 2 amphibious assault ships. Their combat capabilities will increase to an even greater extent with assignment of Harrier V/STOL aircraft to the air group based on the LHA. As is reported by the foreign press, Harrier operational test flights from the deck of the LHA "Saipan" in 1980 confirmed the complete suitability of "Tarawa" class ships as platforms for these aircraft.

Proceeding from the above enumerated capabilities of the LHA, Pentagon officials believe that in many instances it is possible and even more warranted (for political considerations) to send into a conflict area one such ship with security escort than a large amphibious task force.

/Amphibious assault ships/. U.S. amphibious forces include 7 "Iwo Jima" class amphibious assault ships (Figure 2) [not reproduced], specially designed in the 1960's, when the United States adopted a strategy of "flexible response" and the Navy began to pay appreciably more attention to amphibious landing operations. These ships are designed to perform missions of sealifting amphibious assault forces to the objective area and delivering them by transport-assault helicopter deep in the enemy's tactical defenses. As has been reported in the foreign press, 8 helicopters can take off simultaneously from an amphibious assault ship, which makes it possible to put on shore with the first wave approximately 300 Marines or 30 tons of supplies. It was also noted that employment of helicopters alongside conventional landing craft enabled the Americans to employ the tactic of vertical envelopment of the enemy in the course of an amphibious landing.

/Amphibious transports, dock/ (11 "Austin" class and 2 "Relay" class) represent one of the first attempts to design ships which combine the capabilities of the amphibious assault ship, the dock landing ship, troop transport, cargo ship, and command ship. Each such ship can deliver to a great distance 930-1140 Marines, 2000-3000 tons of supplies, and can land them on an unequipped beach by helicopter and landing craft.

/Tank landing ships/ (20 "Newport" class) are designed to carry to the objective area and unload directly onto the beach armored and other vehicles, both tracked and wheeled. The main and tank decks of ships of this class are fitted for accommodating, securing and off-loading medium tanks, amphibious armored personnel carriers, trucks, etc. Each ship is also capable of carrying up to 430 Marines.

/Dock landing ships/ (5 "Anchorage" class and 8 "Thomaston" class) were built to transport to the objective area amphibious landing craft used to carry personnel (combat equipment) ashore. Each such ship can also transport and put ashore up to 400 assault troops. To replace the obsolete "Thomaston" class ships, in 1981 U.S. naval authorities made the decision to commence construction of a series of dock landing ships of the LSD41 class. They have the following designed specifications and performance: standard displacement 10,976 tons, total displacement 15,774 tons; length 185.3 meters, beam 25.6 meters, draft 6 meters; maximum speed 23 knots; armament -- 2 20 mm gun mounts. Crew complement 423 men. They can carry helicopters or V/STOL aircraft, air cushion amphibious landing craft, and 338 Marines with full gear. It is

reported that U.S. naval authorities intend to commission 6 such ships.

/Amphibious cargo ships/ (5 of the "Charleston" class) transport weapons, combat equipment and supplies to the objective area and convey them to the beach by landing craft.

As is noted in the foreign press, U.S. naval authorities devote considerable attention to organization of intensive combat and operational training for the ships of amphibious forces. Amphibious warfare ships take active part in the annual exercises of both fleets, as well as in large-scale NATO Joint Forces maneuvers. In February 1980, for example, the general purpose assault ship "Saipan" took part in the NATO mobile forces exercise "Anorac Express," while in August-September 1981 the amphibious assault ship "Guam" and other amphibious warfare ships took part in the "Ocean Venture" exercise.

Organization of embarking an assault force on ships and vessels and deploying forces in conditions of hostile countermeasures and during combat to land the force, with and without the employment of nuclear weapons, is thoroughly rehearsed and tested in the process of combat training.

Considerable importance is also attached to the development of assault transport means (landing craft, Table 2 [not translated], and amphibious assault vehicles[3]), and airborne (transport-assault helicopters, Table 3 [not translated]). Slow speed and inability to negotiate natural and man-made obstacles in the water are considered to be the principal drawbacks of floating vehicles. In the opinion of U.S. military experts, air cushion amphibious landing vehicles will not have these negative attributes.

According to information in the foreign press, the United States has built and is testing the JEFF-A and JEFF-B air cushion amphibious landing vehicles. The JEFF-B (Figure 3) [not reproduced], for example, traveling at a speed of 50 knots in sea state 2, can negotiate obstacles up to 1.5 meters in height. It can carry 68 tons and has a range of 200 miles. It can be transported in the well deck of an amphibious landing ship and exit without first flooding the well deck.

As is emphasized in the Western press, the United States is completing development, based on the JEFF-B, of the LCAC air cushion amphibious landing vehicle, which is to go into production. Plans call for building more than 100 of these craft. They will be carried by general purpose assault ships, dock amphibious transports, and dock landing ships.

Future improvement of airborne amphibious landing equipment presupposes first and foremost delivery to naval forces of CH-53E Super Sea Stallion heavy transport-assault helicopters, capable of carrying 55 Marines with full gear a distance of up to 1100 km (600 miles). A total of 47 of these helicopters are to be purchased for the Marines by mid-1984.

It is also possible that as a result of the frantic campaign which recently commenced in the United States to revise the shipbuilding program in order to achieve U.S. superiority in the World Ocean, the Pentagon will succeed in obtaining a substantial increase in fleet size, including amphibious forces.

FOOTNOTES

1. An expeditionary battalion includes a Marine battalion, reinforcement and rear services support subunits, as well as a composite air squadron of combat aircraft, transport-assault helicopters and helicopter gunships. Its total strength is 2500 men -- Ed.

2. A Marine expeditionary division, which exceeds 43,000 men, contains a Marine division, reinforcement units, a rear services group, and an air wing -- Ed.

3. For information on amphibious assault vehicles, see ZARUBEZHNOYE VOYENNOYE OBOZRENIYE, No 1, 1981, pp 81-83 -- Ed.

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COMMENTS ON U.S. SEA-BASED CRUISE MISSILES

Moscow ZARUBEZHNOYE VOYENNOYE OBOZRENIYE in Russian No 2, Feb 82 (signed to press 10 Feb 82) pp 79-82

[Article, published under the heading "Naval Forces," by Engr-Col R. Radomirov: "U.S. Sea-Based Cruise Missiles"]

[Excerpts] Recently there has been a sharp increase in the aggressiveness of the foreign policy and scale of military preparations on the part of the North Atlantic bloc. NATO military-political leaders, concealing their militarist aspirations behind a mythical "Soviet military threat," are stepping up the pace of development of new offensive weapons.

The buildup of the combat power of the U.S. Navy and that of its allies is proceeding in the direction of increasing the number of means of delivery of nuclear and conventional weapons, development of more effective munitions, as well as modernization of existing and development of new weapons, which include sea-launched cruise missiles, which are presently undergoing flight testing.

U.S. military experts began work on the development of cruise missiles at the end of the 1960's. Initially the Department of Defense specified the task of developing for the Navy medium-range (approximately 500 km) antiship missiles. Subsequently, at the beginning of the 1970's, there arose the question of developing highly-accurate long-range (approximately 3000 km) missiles carrying a nuclear warhead. In 1972, having examined various cruise missile versions, the U.S. Department of Defense made the decision to commence development of subsonic sea-launched missiles, which could be launched from submarines, surface ships, on-land launchers, and carrier-based aircraft.

Medium and long-range missiles were developed by five companies on a competitive basis. General Dynamics was selected to continue their development, and in 1974 -1975 built the first experimental missiles (designated Tomahawk).

U.S. military authorities believe that the naval forces of the NATO countries, if armed with medium-range and long-range cruise missiles, will possess great potential to hit important targets on enemy territory as well as to counter the enemy's navy.

Tomahawk sea-launched cruise missiles are being developed in three versions:

BGM-109A, with a nuclear warhead, to be used against land targets;

BGM-109C, with a conventional warhead, to be used against land targets;

BGM-109B, with a conventional warhead, to hit surface targets.

Due to their modular design, these versions differ from one another only in warhead, which is secured to the missile's middle section with an attachment assembly. Cruise missiles will have differing range capabilities and combat roles, with the forward sections fitted with different guidance systems, warheads, and additional fuel tanks. It is expected that missiles with conventional warheads will become operational in the Navy in 1982, and nuclear-warhead missiles in 1983.

A lack of suitable technical means of detecting an enemy surface ship and target designation, since missiles are launched at considerable (below-horizon) range, is considered to be one of the difficulties in combat employment of antiship cruise missiles.

In order to solve this problem, U.S. military experts are developing the automated Outlaw Shark system for below-the-horizon antiship cruise missile target designation. Its effectiveness is increased by employment of patrol helicopters and carrier-based aircraft. Real-time data on a target located below the horizon is applied from various sources to a computer on board the cruise missile firing ship. Processing this data, this computer feeds into the cruise missile computer target designation as well as information on other ships located close to the missile's trajectory. The Outlaw Shark system is presently being tested for cruise missile guidance to below-the-horizon surface targets.

Flight testing of sea-based cruise missiles commenced in 1976. Missiles were launched from various platforms, including a regular torpedo tube mounted on a test platform under water, from a carrier-based A-6 attack aircraft, from a standard armored launcher (with four tubes), and from the submarine ("Gitarro") (submerged).

A cruise missile is launched from a submarine's torpedo tube from a depth of 15-20 meters. The missile with its container is placed in the torpedo tube, which is flooded, the water entering the container through holes. At this moment a special device begins operating in the cruise missile, a device which creates within the missile body an overpressure proportional to external pressure, so that missile body deformation does not occur. The torpedo tube door is opened, and the Tomahawk missile is ejected from its container by a hydraulic system. The container in turn is ejected some time after the missile is fired. The missile is connected to the submarine by a 12-meter cable, tension on which fires the solid-propellant booster, which burns for 10 seconds (5 seconds in the water and 5 seconds in the air). As the missile passes upward through the water, pressure within the missile body drops to normal, and it breaks surface at an angle of 50° (Figure 4) [not reproduced].

At a height of 300 meters the booster separates, the fins deploy, the air intake extends, and the motor automatically goes into cruise mode. The radio altimeter switches on, the missile transitions to the preselected flight path and, 60 seconds after launch, is in cruise mode.

Judging from reports in the foreign press, testing of cruise missiles has been conducted on the Pacific missile range, at White Sands, and near the San Diego Navy Base (off the shore of San Clemente Island). Tests included the following: resistance of cruise missile body to shock loads, capability to fire the missile from a torpedo tube, launch, booster operation and separation, missile separation from launching aircraft, functioning of aerodynamic surfaces deployment drive mechanisms, midair startup of cruise motor, operation of combination guidance system, execution of programmed course and altitude maneuvers, etc. In addition, they studied cruise missile capability to penetrate a hostile air defense system when attacking land targets. They also worked on a mode of flight involving S-turns above the water surface, search for a below-the-horizon surface target and target lock-on by the homing head, simulation of target destruction by overflying it, and operation of the Outlaw Shark system.

At the beginning of 1980 tests of a standardized armor-protected four-tube launcher designed for surface ships began on the Pacific missile range. The first launch of a cruise missile from such a launcher, sited on shore, took place in March. It was then mounted on the deck of the destroyer "Merrill," from which the first launchings were accomplished.

It is reported that there have been a total of 54 launchings of cruise missiles of various types, 12 of which were considered unsuccessful by U.S. experts.

Completion of flight testing of cruise missiles is scheduled for 1981-1982. The Department of Defense plans to purchase 439 cruise missiles for the Navy as part of the 1981-1985 five-year military program, including 196 missiles with nuclear and conventional warheads to attack land targets, and 243 of the antiship version. Total appropriations for research, development and purchase of sea-based cruise missiles exceed 2 billion dollars.

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